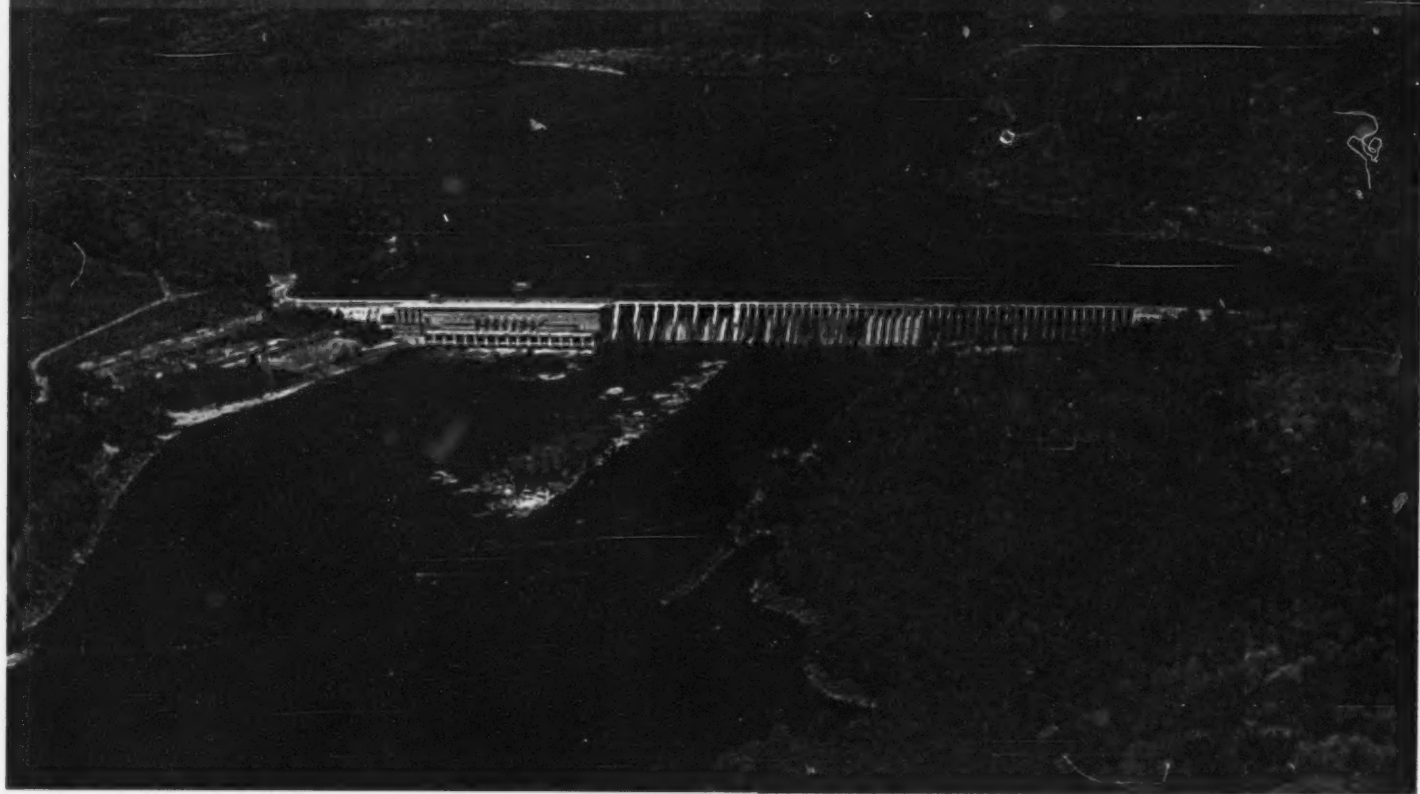
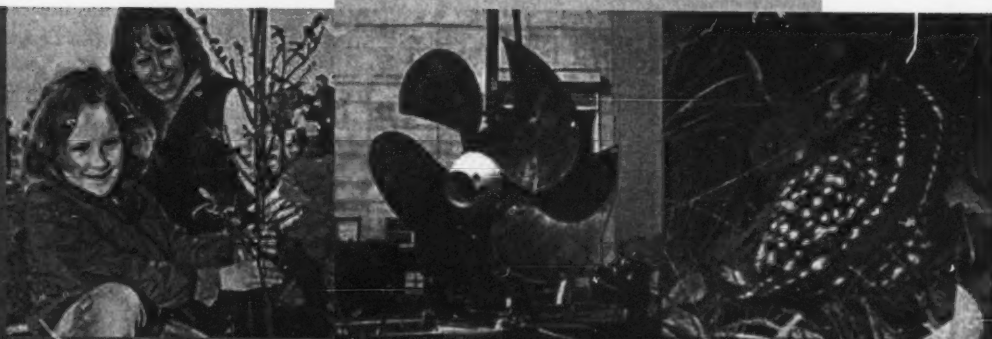
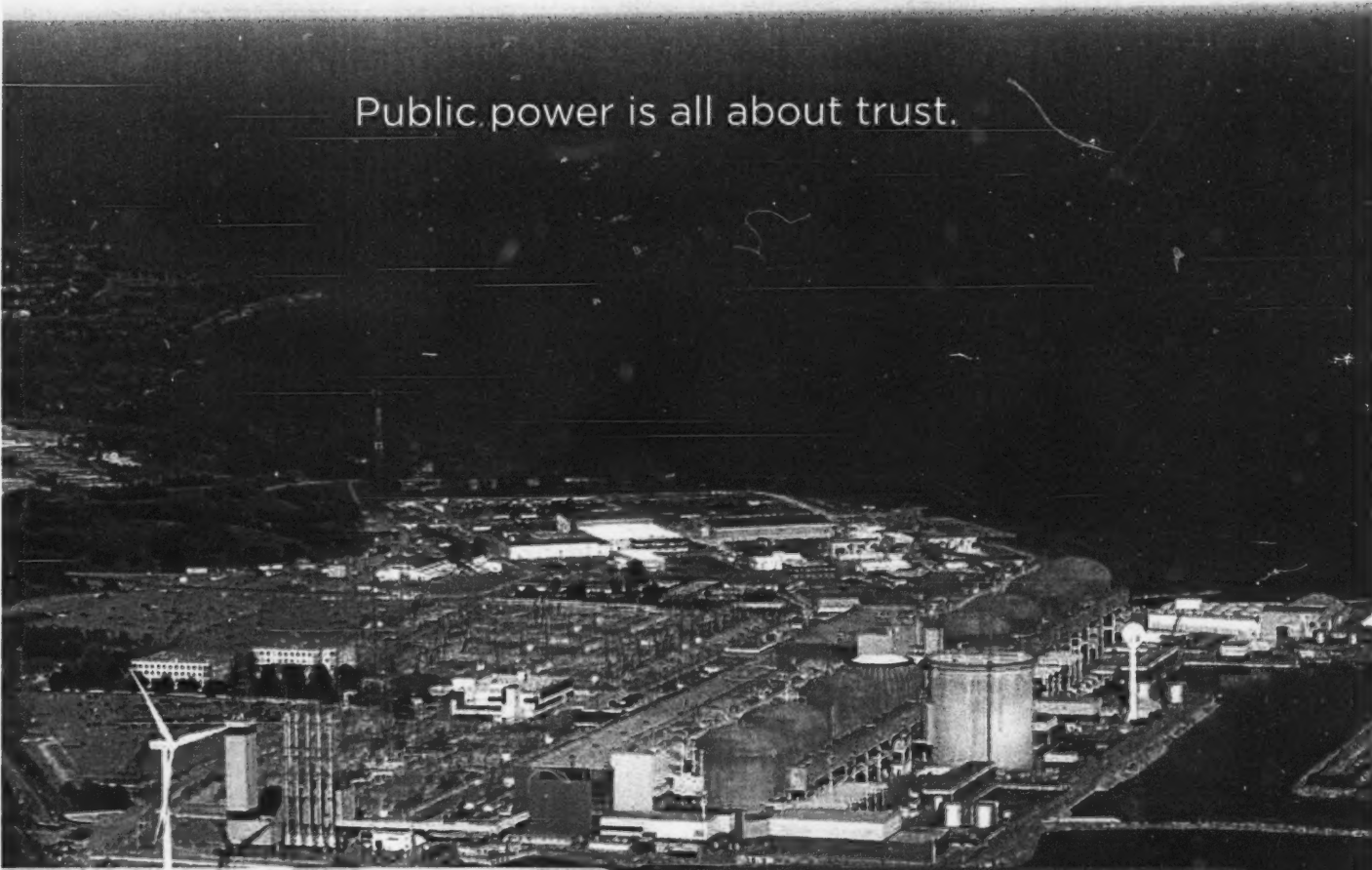


Sustainable Development Report



ONTARIOPOWER
GENERATION



Public power is all about trust.

Ontario Power Generation's

Mandate - to reliably and cost effectively produce electricity from a diverse portfolio of generation assets, in a safe, open and responsible fashion.

Vision - to be a leader in low cost clean energy generation and to play a major role in leading Ontario's transition to a more sustainable energy future.

Commitments:

- ▶ to service;
- ▶ to being a company that's open, accountable, transparent, and trustworthy;
- ▶ to continual improvement of process and performance;
- ▶ to performance excellence in generation, safety, the environment and fiscal performance.

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▲ Pickering Generating Station

Cover photo: Otto Holden Generating Station

Company Profile

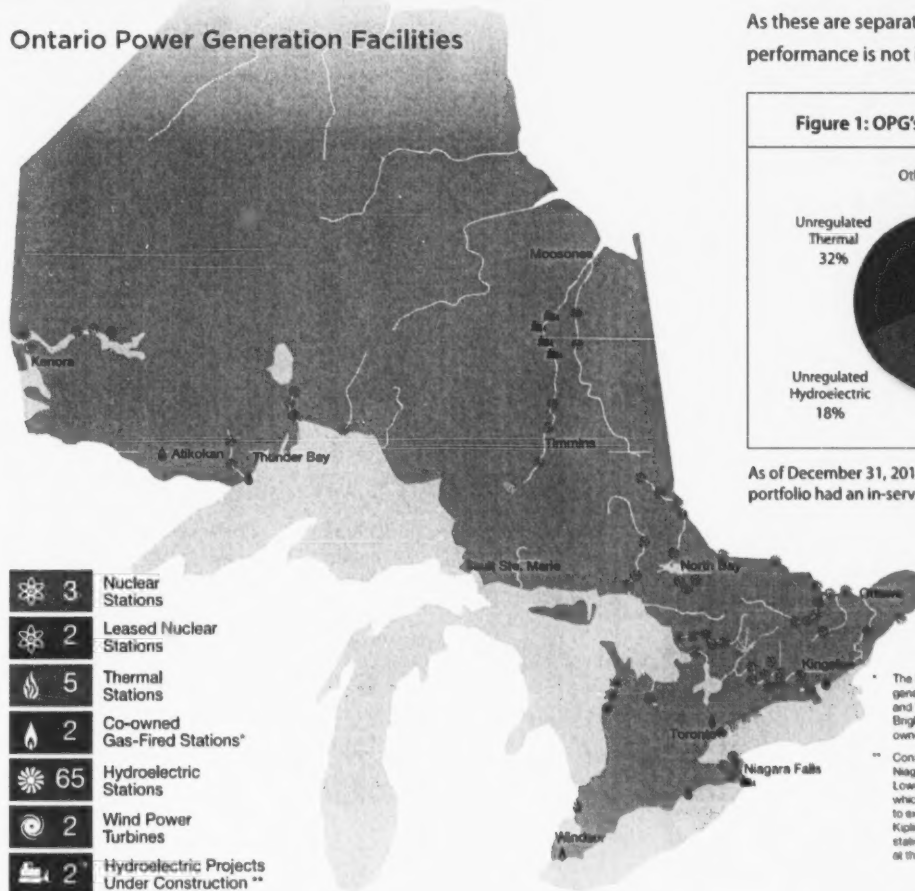
Ontario Power Generation (OPG) is an Ontario-based electricity generation company whose principal business is the efficient production and sale of electricity from its generating assets, while operating in a safe, open and responsible manner. OPG was established under the Business Corporations Act (Ontario) and is wholly owned by the Province of Ontario.

In 2010, OPG had approximately 11,800 regular employees and generated 88.6 terawatt hours (TWh net) of electricity.

OPG's electricity generating portfolio as of December 31, 2010, had a total in-service capacity of 19,931 megawatts (MW), which consisted of:

- three nuclear generating stations with a capacity of 6,606 MW
- five thermal-fuelled generating stations with a capacity of 6,327 MW
- 65 hydroelectric generating stations with a capacity of 6,996 MW, and
- two wind power turbines with a capacity of 2 MW.

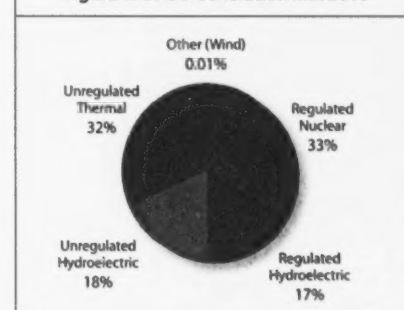
Ontario Power Generation Facilities



In addition, OPG and TransCanada Energy Ltd. co-own the Portlands Energy Centre gas-fired combined cycle generating station. OPG, ATCO Power Canada Ltd. and ATCO Resources Ltd. co-own the Brighton Beach gas-fired combined cycle generating station. OPG also owns two other nuclear generating stations, which are leased on a long-term basis to Bruce Power L.P. ("Bruce Power").

As these are separate companies their performance is not included in this report.


Figure 1: OPG's Generation Mix 2010



As of December 31, 2010, OPG's electricity generating portfolio had an in-service capacity of 19,931 MW

* The 550 MW Portlands Energy Centre gas-fired generating station in Toronto (co-owned by OPG and TransCanada Energy Ltd.) and the 560 MW Brighton Beach gas-fired generating station, co-owned by OPG and ATCO Power Canada Ltd.

** Consist of two hydroelectric projects: (1) the Niagara Tunnel, near Niagara Falls; (2) and the Lower Mattagami project in northeastern Ontario, which will result in the addition of generating units to existing stations in Little Long, Harmon, and Kipling and will also replace a fourth generating station, Smoky Falls, with a new, three-unit station at the existing site.



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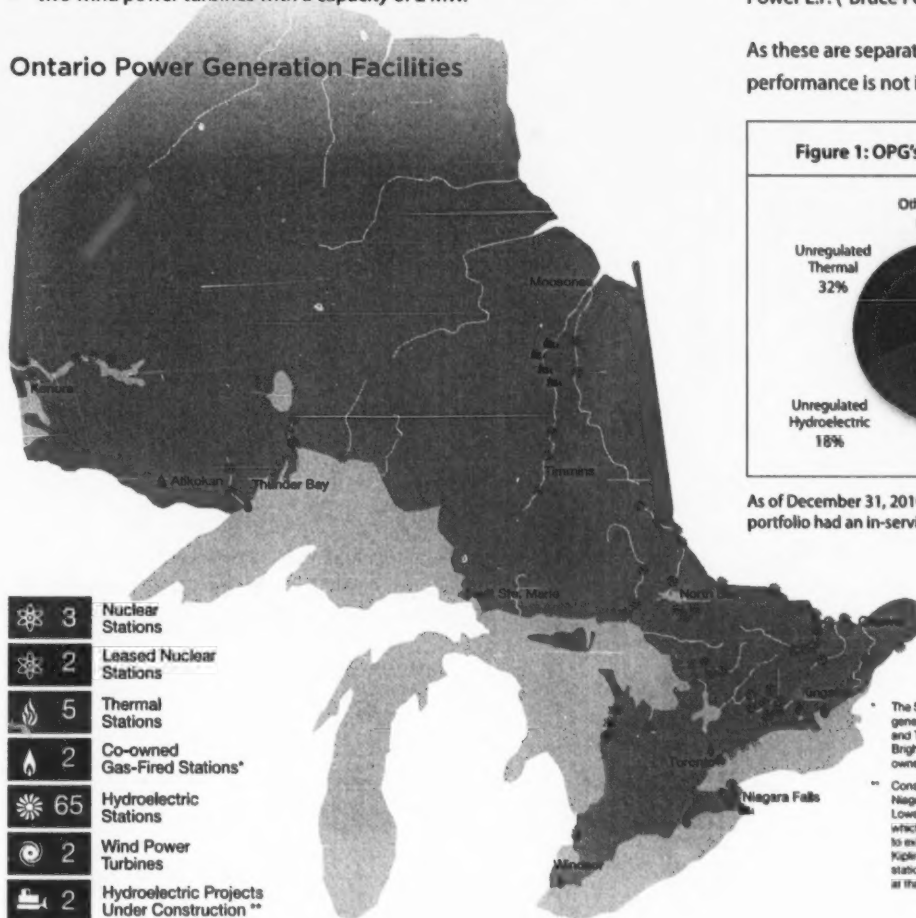
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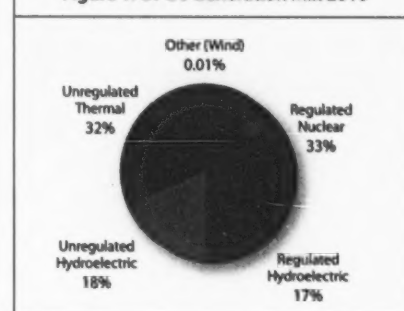
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Message

from the President and CEO and the Vice President of Sustainable Development

Ontario Power Generation (OPG) remains committed to continuously reducing our environmental footprint while contributing to a better Ontario through corporate citizenship, community commitment and the safe, low cost, efficient generation of electricity.

OPG embraces sustainable development as the means of: meeting the needs of the enterprise today, while protecting and enhancing human and natural resources that will be needed in the future.

This report documents our achievements, identifies our opportunities to improve, and explains the steps we are taking to address our challenges. It is designed to provide transparent disclosure of our performance such that our stakeholders and partners are empowered to form their own opinion. Despite our progress, we recognize that our performance is far from perfect. Our commitment is to a journey of continuous improvement. We seek to be increasingly recognized for delivering on our core values: accountability; openness; financial prudence; performance excellence; our environmental achievements; our contribution to increasing Ontario's clean energy supply; and for our commitment to making Ontario a better place for everyone.

Our environmental programs are diverse. Climate change and the conservation of biological diversity are integral parts of our sustainable development efforts. OPG continues to be a leader in biodiversity. A key aspect of our biodiversity initiative is an extensive native tree planting program which not only restores wildlife habitat but also helps to mitigate climate change.

In 2010, almost 85 per cent of the electricity we generated produced virtually no emissions contributing to smog or climate change. OPG's commitment to stop burning coal at our thermal stations in 2014 is the most significant step to fight climate change that is being taken in North America.



Tom Mitchell - President & CEO



Cara Clairman - Vice President
- Sustainable Development

We continue to focus on safety in our uncompromising drive to zero injuries. Our safety performance is consistently one of the best among Canadian electrical utilities. In 2010, we were the first employer in Ontario to be honoured with the Zero Quest Platinum (Sustainability) Award from the Infrastructure Health and Safety Association.

We are also a committed corporate citizen. Last year, OPG supported over 1,100 not-for-profit community, education and environmental initiatives. Our employees and pensioners contributed over \$2 million to OPG's Charity Campaign, and devoted thousands of hours of volunteer and pro-bono work in their communities.

As a publically-owned power company, we create value for the Ontario government and residents through transfer payments and by helping hold down the overall costs of electricity. After safety and operational excellence, cost control is an ongoing priority. In 2010, we reduced our discretionary spending by 20 per cent.

While our successes are gratifying, the past year was not without its challenges. Our commitment to reducing operational impacts on the environment, and zero workplace injuries, remain ongoing objectives.

We invite and welcome your feedback. Please complete our online survey, or contact us. Contact information is available on our website and on the back of this Report.

Respectfully,

Tom Mitchell
President and CEO

Cara Clairman Vice President
Sustainable Development

About this Report

At OPG, the principles of sustainable development are woven into the fabric of our lives and influence all aspects of our decisions ranging from our daily operations, to refurbishment of nuclear units, to biomass conversion, to community engagement, to energy audits and to greening our supply chain. We acknowledge that our activities can have impacts that may be either beneficial or adverse. We strive to identify and characterize our impacts, to eliminate, control or minimize the adverse and to maximize the beneficial aspects of our operations. We are proud of our progress and commitment in the areas of environmental performance, social impact and economic contribution; however, our improvement journey continues. This report will provide insights into our operations.

Our commitment to sustainable development will help make Ontario a better place to live for everyone.

Report Objective

OPG's objectives in publishing this report is to convey our commitment to sustainable development, and to communicate our environmental, social and economic performance to our stakeholders in an open, and transparent fashion.

Stakeholders and Partners

OPG recognizes our obligations to our stakeholders and partners. We are aware that our license to operate rests with the establishment and maintenance of strong mutually beneficial relationships. That is why we're committed to open dialogue, providing information about our activities, and listening to feedback.

Our stakeholders and partners include the communities in which we operate (including Aboriginal), customers, educational institutions, public, non-government organizations, suppliers, unions, the media, peer industry groups, employees, the OPG Board of Directors, and government agencies at federal, provincial and municipal levels.

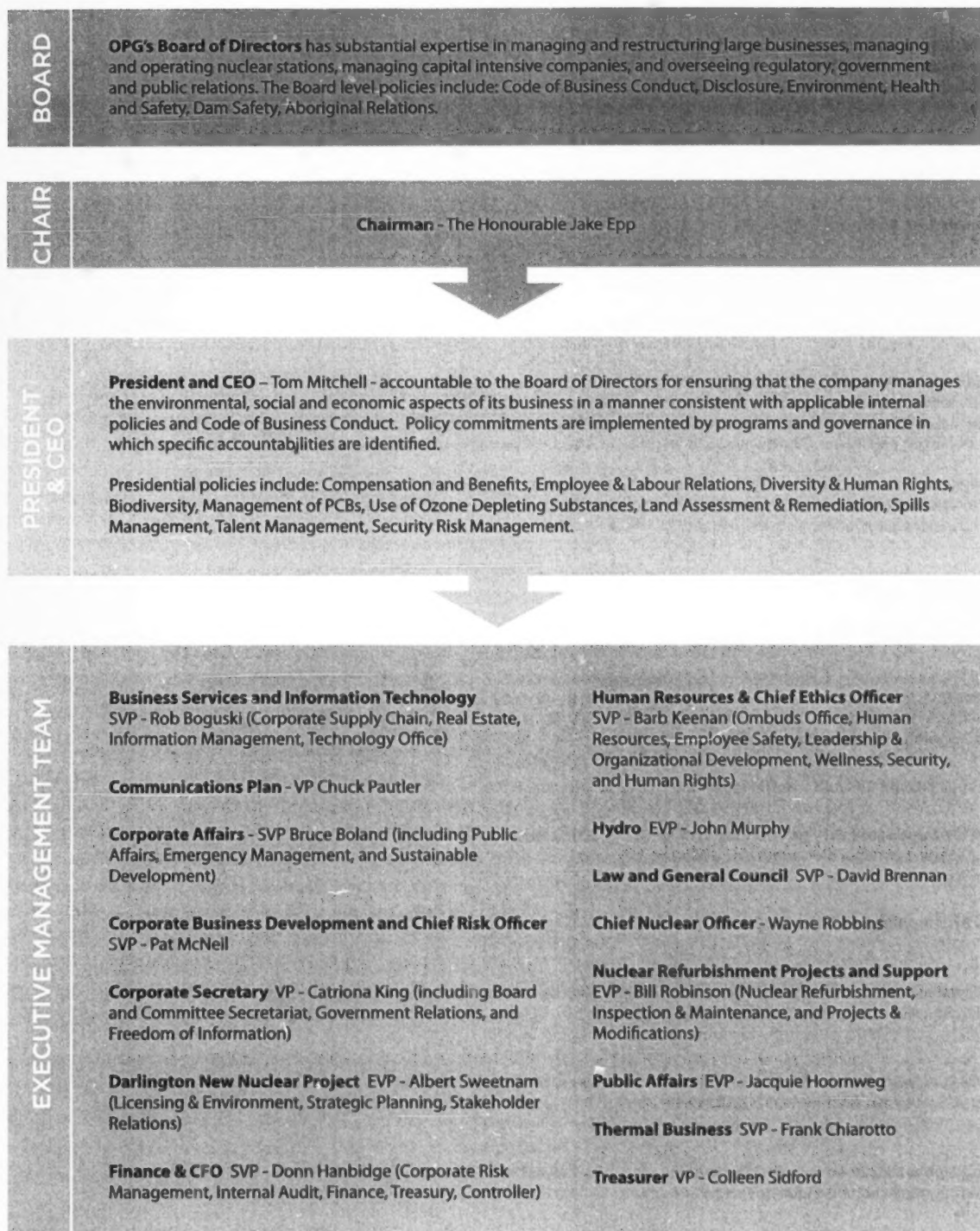
In the spirit of continual improvement and to support our efforts to engage our stakeholders, we welcome feedback (contact information is available on our website and on the back cover of the report). In addition to an online survey, feedback on the 2009 report was received from the public, employees, academia, NGOs, and the electricity sector.

Recommendations incorporated in this year's report include the addition of the Global Reporting Initiative (GRI) roadmap, more graphs and less text, and clarification of targets. OPG's 2009 Sustainable Development report was also reviewed by the EXCEL Secretariat (part of the Delphi group - a strategic consultancy firm specializing in Corporate Sustainability), and they found that OPG's sustainable development reporting metrics were appropriate for demonstrating sustainable development performance. OPG was also benchmarked against other companies that report on sustainable development metrics and our report ranked as 'high achievement'.

Data Integrity

Assurance of the accuracy of data documented in this report is achieved by a variety of means. Financial data is subject to prescribed audit. Prescribed operational and performance data is subject to periodic audit as part of environmental management system programs (ISO 14001), OPG's ongoing audit programs, and the Canadian Electricity Association's verification program. Further, reported data is validated by both line management and organizationally independent staff prior to submission. OPG's audited consolidated financial statements and Management Discussion and Analysis can be accessed on OPG's website www.opg.com, the Canadian Securities Administrators' website www.sedar.com or can be requested from the company.

Accountability and Governance



For more information related to the membership of our Board of Directors, Executive Management Team, as well as access to key governing documents such as policies go to www.opg.com/about/governance.

OPG accepts responsibility for the impacts of our decisions and activities on society and on the environment through transparent and ethical behaviour that:

- is consistent with sustainable development and the welfare of society,
- takes into account the expectations of stakeholders,
- is in compliance with applicable law and consistent with international norms of behaviour, and
- is integrated throughout the organization.

OPG is committed to ensuring that staff understand, and work to the principles of sustainable development. Supervisors and managers are required to participate in training to ensure that they can advise employees under their direction of the need and means to operationalize sustainable development on a daily basis. In 2010, 418 staff were trained, bringing the total to over 4000. In 2011, we plan to train approximately 360 staff, and from 2012 onward approximately 170 new supervisors annually.

Targets

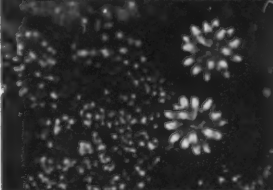


Consistent with industry norms, 'targets' often represent threshold performance. Desired performance may be greater or less than the threshold depending on the specific metric. For example, waste generation should be less than threshold and trending downwards. Conversely waste diversion from landfill should be above threshold and trending upward. Each target is colour coded to indicate performance, and accompanied with arrows indicating whether performance is improving, remaining static or declining. All 2011 performance targets at a corporate level either remain unchanged from 2010 or have been changed to drive improved performance.

TARGETS & TREND LEGEND	
Performance Target	Performance Trend
 Performance better than threshold	 Performance trend is improving
 Performance fails to meet but within 10% of threshold	 Performance trend neither improving nor declining
 Performance fails to meet and is greater than 10% from threshold	 Performance trend is declining

Global Reporting Initiative (GRI)

In our 12 years of sustainable development reporting, OPG has revised the content and reformatted the sustainable development report based on stakeholder feedback. Over the years, stakeholder feedback has indicated that the report is regarded as credible and well organized. For this reason, combined with the fact that OPG is an Ontario based utility, we have chosen not to adopt the GRI guidelines (an international reporting framework). However, a table mapping GRI criteria to report content has been introduced this year.

OPG Sustainable Development Achievements & Challenges for 2010*

	NOTEWORTHY ACHIEVEMENTS	CHALLENGES
Environment 	<ul style="list-style-type: none"> Continued recognition of biodiversity and habitat management programs (p 24). Zebra mussels program DeCew GS - testing a biological agent to replace chlorine (p 20). 	<ul style="list-style-type: none"> Climate change adaptation (p 16). Fish impingement, entrainment, migration and thermal effluent issues (p 22).
Social 	<ul style="list-style-type: none"> Academic partnerships – Durham College and UOIT (p 34). Pursuit of economic partnerships with Aboriginal communities (p 36). Safety performance is consistently one of the best among Canadian electrical utilities, being awarded the Canadian Electricity Association's President's Safety Award in six out of the last ten years (p 30). Received ZeroQuest Platinum Award for sustained effort in health and safety management and culture (p 30) 	<ul style="list-style-type: none"> OPG is required to identify and evaluate heritage properties (p 43). Increasing representation of designated groups in accordance with Employment Equity Plan (p 34). OPG's 2010 Accident Severity Rate of 2.04 days per 200,000 hours worked was not as good as 1.40, achieved in 2009 (p 30).
Economic 	<ul style="list-style-type: none"> The Niagara Tunnel remains one of Ontario's most economic infrastructure projects with respect to its long-term value as an added source of clean renewable hydroelectric power. As of December 31st, 2010, the tunnel boring machine had progressed 9152 meters (90% of the overall distance) (p 47). Four coal units closed early – saving \$200 million dollars in operating and maintenance costs (p 45). 	<ul style="list-style-type: none"> Approximately 14,000 old fluorescent lighting ballasts containing PCBs were abandoned in place during lighting retrofits in the mid 1990's. Preliminary estimates to address this issue range from \$4-13 million dollars (p 20). By 2012, 30 per cent of the workforce will be eligible to retire (p 36, 48, 49).

* page references provided for additional detail

Environmental Performance



▲ Deer on rehabilitated ash pile at Thunder Bay G.S.

OPG's commitment to sustainable development is reflected in our efforts to minimize the environmental footprint of our operations, while meeting the obligation to safely produce low-cost power for the residents of Ontario. OPG's website ([www.opg.com / safety and environment/](http://www.opg.com/safety-and-environment/)) provides information related to environmental programs and has a link to the annual report.

Key Environmental Performance Benchmarks

OPG considers regulatory compliance to be a minimum, non-negotiable standard for progress towards sustainable development, and we have established voluntary internal environmental targets to help ensure that our overall performance continues to improve beyond compliance.

Accordingly, each year OPG sets key targets for improving environmental performance. Our progress is tracked and managed through the Environmental Management System (EMS). These efforts are reinforced by an Annual Incentive Plan that links management's compensation to meeting or surpassing established targets.

Table 1: Corporate Environmental Performance vs. Targets (2010)
(All targets are voluntary except where otherwise specified)

Category	2010 Performance Measure	2010 Year-End Performance	2009 Year-End Performance	Benchmark Target Met
Spills ⁽¹⁾	Very Serious A = 0	0	0	Yes
	Serious B = 0	0	1	Yes
	Reportable but Less Serious C = 30	25	15	Yes
Regulatory Compliance ⁽²⁾	Major Infractions = 0	0	0	Yes
	Other Infractions ≤ 51	23	31	Yes
	Environmental penalties	5		No Target
Energy Efficiency	34.5 GWh saved	34.5	29.6	Yes
Air Emissions	NO _x (as NO ₂) ≤ 23.3 Gg net ⁽³⁾ regulatory limit	16	13.3 gross	Yes ⁽⁵⁾
	SO ₂ ≤ 120.2 Gg net ⁽³⁾ regulatory limit	37.47	29.5	Yes
	Total Acid Gas ≤ 236 Gg gross ⁽³⁾	53.7 gross	42.9 gross	Yes
	NO _x (as NO ₂) rate (Gg/TWh-delivered) ⁽⁴⁾	1.3	1.3	No Target
	CO ₂ (gross Tg) 15.6 Tg	12.7 gross	10.3 gross	Yes
Critical Group Dose	Pickering < 5 µSv	1.0	1.8	Yes
	Darlington < 5 µSv	0.6	0.7	Yes
Low & Intermediate Level Radioactive Waste	≤ 3,106 m ³	2,921	3078	Yes
Ash & Gypsum Diverted from Landfill	Gg	389 ⁽⁶⁾	381 ⁽⁶⁾	No Target

- (1) OPG ranks the severity of spills according to guidelines set by the company's Spills Severity Rating Procedure, which mirrors Ontario Ministry of the Environment guidelines.
- (2) Infractions - Include any incident resulting in regulatory action, including the issuance of a Notice of Violation, an order, a prosecution or other compliance action. All violations that lead to an Environmental Penalty are considered infractions.
- (3) Regulatory Acid gas limits in 2009, O.Reg. 397/01 allocated 23.3 Gg NO_x and 120.2 Gg SO₂ allowances to OPG. The regulation has a provision for the use of banked or purchased allowances or limits amounts of emission reduction credits to offset emissions in excess of the allowance allocations. Notwithstanding this, O.Reg. 153/99 limits OPG's total gross SO₂ emissions to 175 Gg and the total gross acid gas emissions to 236 Gg. NO_x is expressed as mass NO₂.
- (4) NO_x emission rate targets are based on "delivered energy". Delivered energy is defined as "gross energy output from a generating unit, less unit service (energy supplied by and consumed by the unit), while connected to the electricity grid". The NO_x emission rate (Gg/TWh-delivered) is the total of all fossil station NO_x emissions divided by the total delivered energy from all fossil units.
- (5) Thermal's overall NO_x emissions rate performance was very favourable in comparison to previous years given the unexpected operating paradigm the units experienced in 2010.
- (6) While the absolute amount of ash and gypsum diverted from landfill increased, the percent diverted decreased from 74% to 68%.

Environmental Management

OPG strives to eliminate, control, minimize, mitigate, or compensate for the environmental impacts of its operations.

Environmental assessments are conducted for new projects that are likely to impact the environment. OPG's corporate groups, generation facilities, Nuclear Waste Management, and Supply Chain remain certified to an ISO 14001 EMS which helps ensure that the company complies with its environmental policy within a framework of continual improvement. OPG's Environmental Policy ([www.opg.com/safety and environment](http://www.opg.com/safety-and-environment)) includes commitments to meeting or exceeding regulatory and other requirements, to environmental stewardship, to integration of environment into decision making, to employee engagement, and to enhancing the social and environmental well-being of our communities.

Regulatory Compliance

OPG must comply with a multitude of requirements contained in statutes, regulations, bylaws, operating permits and Certificates of Approval.

In 2010, OPG experienced 23 environmental infractions compared to 31 infractions for 2009. No major infractions¹ were reported. Our performance was below the threshold (target of 51), and we achieved our goal of improvement. In addition, OPG received five Environmental Penalties (EPs) for a

total of \$38,404.50 (this metric is being tracked with no specific performance targets at this stage). (figure 2).

Energy Efficiency

OPG remains committed to programs that reduce its consumption of energy. Programs include specifying energy efficiency of new buildings, retrofitting existing buildings, procuring energy efficient equipment (such as computers), and upgrading the efficiency of turbine runners and transformers.

In 1994, OPG's predecessor company, Ontario Hydro, committed to an energy efficiency program, and 16 years later the program remains highly successful. Indeed, from 1994–2010, OPG's annualized energy savings have increased by 2,469 GWh, resulting in annual savings of \$111.09 million (at the average of 4.7 cents/kWh paid to OPG) and emission savings of 2.57 million tonnes of CO₂ (figure 3).

In 2010, OPG achieved new internal energy efficiency savings of 34.5 GWh/yr, primarily attributable to efficiencies in hydroelectric and real estate operations.

In 2010, eleven Hydroelectric projects were completed including turbine runner upgrades at Chats Falls GS, Cameron Falls GS, Abitibi Canyon GS, Otto Holden GS, Des Joachims GS, Alexander GS, and Sir Adam Beck I GS.

Within OPG Head Office, new initiatives in 2010 included:

- Installation of variable frequency drives on two domestic water pumps; and
- Re-caulking of pre-cast concrete panels to reduce heat loss.

Resource efficiency initiatives resulted in the following improvements:

- Electricity consumption* was 35,163 MWh, down 2.74 per cent from 2009.
- Water consumption* was 168,204 m³, down 15.31 per cent from 2009.
- Steam use was 20,899 m³, up 2.27 per cent from 2009.

(*Adjusted for difference between number of billing days versus days in calendar year.)

[www.opg.com/safety/energy efficiency](http://www.opg.com/safety/energy-efficiency)

Figure 2: Regulatory Infractions 2007-2010

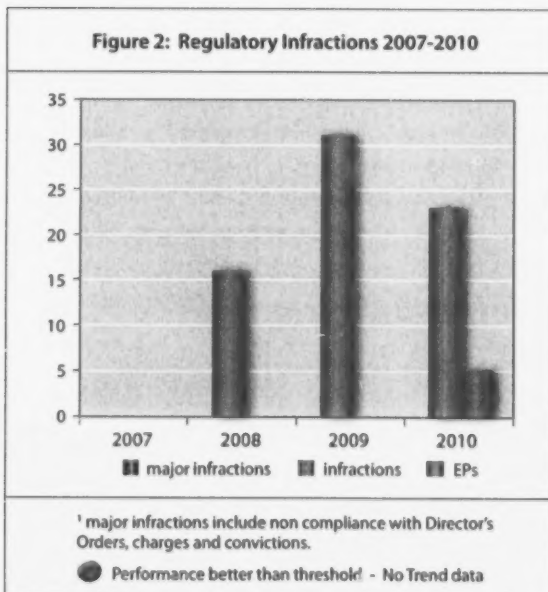
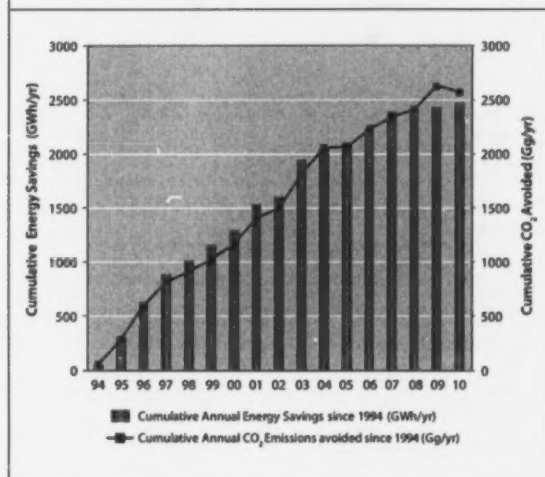


Figure 3: OPG Cumulative Energy and CO₂ Emission Savings 1994-2010

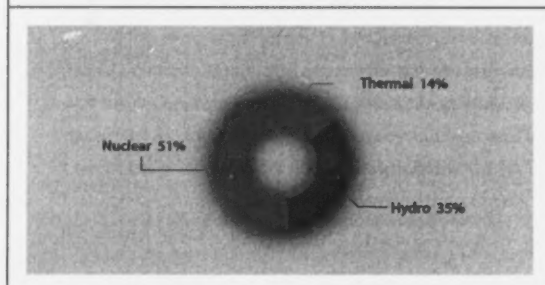


Air

Generation Mix

In 2010, approximately 85 per cent of OPG's electricity production was derived from hydroelectric and nuclear sources that were virtually free of air emissions causing smog, acid rain and global warming (figure 4).

Figure 4: OPG's Generation Mix (2010) 89,049 GWh



Based on a Memorandum of Agreement between the Province of Ontario and OPG, OPG has been given direction that it "will not pursue investment in non-hydro-electric renewable generation projects [i.e. solar and wind] unless specifically directed to do so by the shareholder." As a result, OPG is not at liberty to bring into its generation mix non-hydro-electric 'green energy' supply, unless the shareholder so directs.

The remaining generation came from OPG's five Thermal stations. Four of these stations use coal as their primary source of energy and one is dual fuelled by oil and natural gas. OPG's thermal plants supply electricity for demand that is not first met by other Ontario supply sources such as nuclear, hydro and Ontario's growing portfolio of alternative generation. An advantage of thermal stations is their flexibility to respond to changes in demand that occur by the minute, day and year, thereby making them capable of providing the backup required for intermittent sources like wind and solar. This flexibility means that electricity production from these plants, and the associated air emissions varies (figure 5).

Thermal Generation in Transition

Given the pending phase out of coal by the end of 2014, no new investment will be made in emission control technologies. Though overall emissions will remain low, emission rates may vary slightly from year to year as a result of the manner in which the coal units will be called upon to operate.

Air emissions from OPG's thermal facilities have declined significantly as a result of a combination of technology, operating practices and government policy.

Mercury Monitoring and Reporting

In 2010, OPG continued its Mercury Monitoring and Reporting Program established in accordance with the requirements of the Ontario Ministry of the Environment. The Mercury Canada-wide Standard program requires routine sampling and analyses of coal, coal combustion by-products and stack sampling for mercury. Annual reports are submitted to MOE.

In 2010, OPG's coal-fired facilities emitted 87 kg of mercury, the second lowest level on record (figure 5).

Further information on the Mercury Canada-Wide Standard can be found at the CCME website www.ccme.ca/about/air.

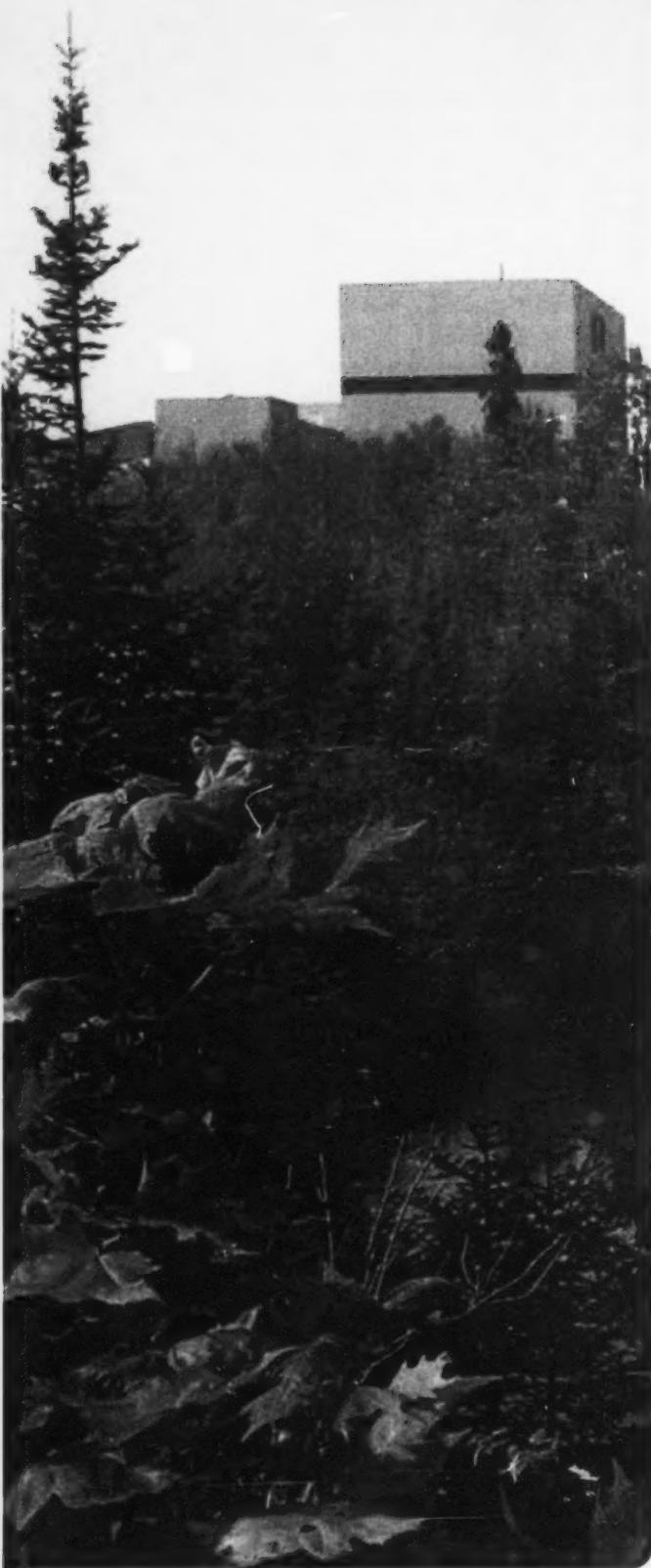
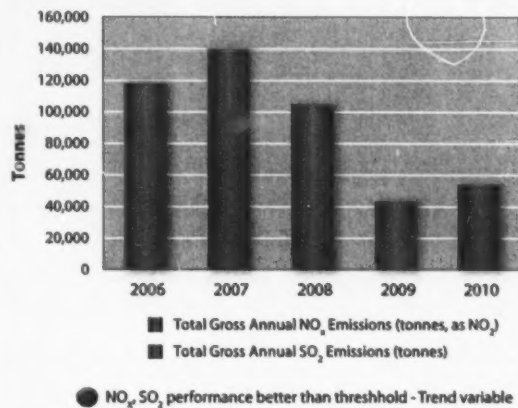
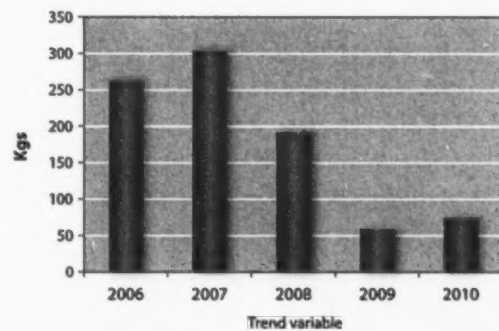


Figure 5: OPG 2010 Air Emissions

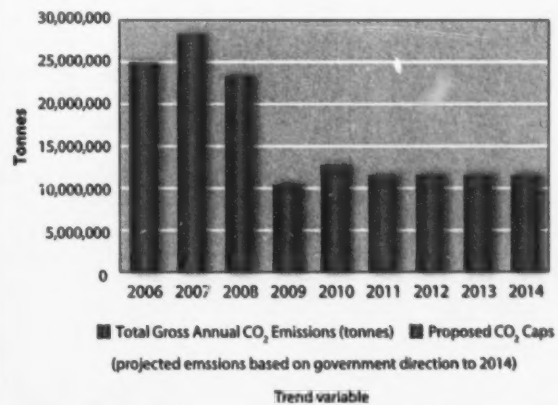
ACID GAS

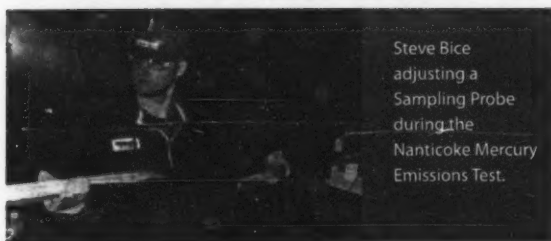


MERCURY



CO₂





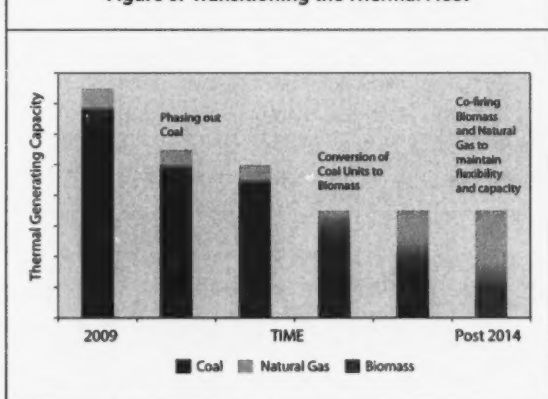
National Pollutant Release Inventory

OPG's emission data reported to the National Pollutant Release Inventory (NPRI), for 2009, are presented in Appendix B. For detailed information on the breakdown of OPG's NPRI data by emissions to air, water and land please visit the NPRI web site at: www.ec.gc.ca/pdb/npri/npri_home.

Repowering Coal Units

OPG's existing coal-fired assets offer quick and flexible operating characteristics to ensure reliable operation of Ontario's electricity system. These important attributes can be maintained after cessation of coal use through the repowering of some units to allow the use of alternate fuels such as natural gas and biomass. Modifications would be required for the conversion of coal units to alternate fuels, thus preserving the value of existing assets and providing a relatively low capital cost option to enhance Ontario's electricity system capacity.

Figure 6: Transitioning the Thermal Fleet



With the pending cessation of the use of coal by the end of 2014, prudent investments are targeted towards the safe and reliable operation of the coal units and implementation of best management practices to ensure regulatory compliance and environmentally acceptable operations (figure 6.)

In November 2010, the Minister of Energy released Ontario's Long-Term Energy Plan. The plan confirms government support for conversion of OPG's Atikokan GS to biomass and Thunder Bay GS to natural gas. In addition, the plan recognizes the potential benefits of continuing to use some of OPG's other coal-fuelled generating units after conversion to natural gas. (Long-Term Energy Plan at the Ministry of Energy website www.mei.gov.on.ca)

Biomass

Wood and agricultural based biomass are recognized around the world as renewable sources of energy that have significant climate change benefits. OPG's biomass program does not use food crops and requires fuels to be from sustainable sources. Biomass burning has been successfully demonstrated at all OPG coal plants.

At OPG's request, the Pembina Institute analysed the economic, social and environmental sustainability of electricity generation from renewable forest-based biomass and concluded that 'using biomass for wood pellet production as a substitute fuel for coal and natural gas will lead to meaningful reductions in GHG emissions. As such, the focus of new generation station conversion should consider biomass as a priority feedstock.' (www.opg.com/power.thermal/repowering, www.pembina.org)

On behalf of OPG, the University of Toronto studied the lifecycle impacts of using sustainably harvested forest based fuel and concluded that "GHG from the plants were reduced by 91 per cent when employing wood pellets instead of coal, and by 78 per cent when using wood in place of a natural gas combined cycle." (Heather MacLean Associate Professor U of T, 2009). The research included the impacts from resource extraction (coal mining, natural gas production or forest harvesting) fuel processing, transportation and combustion.

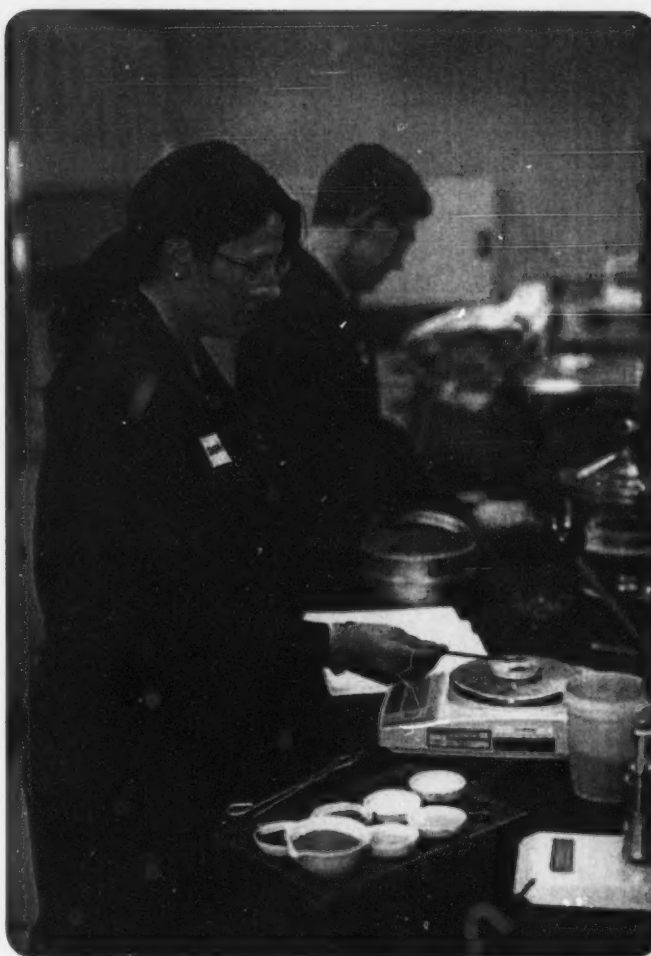


▲ Biomass pellets

OPG continues to develop plans for the repowering of Atikokan GS from coal to wood based biomass fuel by 2013. Testing has shown that full electrical output (211 MW) is possible on wood-based biomass fuel and that air emissions would be significantly lower.

OPG has chosen wood pellet biomass as the preferred fuel because the energy content is very similar to the low sulphur lignite coal that Atikokan GS was designed to burn and much of the existing station equipment can be easily adapted. In the spring of 2010, OPG issued a "request for indicative prices" for 90,000 tonnes per year of dried wood-pellets. The wood-based biomass fuel required for Atikokan GS can take the form of forest industry by-products and harvested wood. If all of the wood needed to meet this fuel requirement came from harvested wood, it would be less than one per cent of the current allowable annual harvest in Ontario.

For more information on the Atikokan Generating Station Repowering Project, visit www.opg.com; e-mail biomass@opg.com; or call the Station Manager at Atikokan GS at 807-597-3500.



▲ Biomass analysis at the Thermal Fuel and Ash lab

Emissions Comparison Based on 100% Wood Pellet Trials at Atikokan GS

Emissions	Lignite Coal	Wood-Pellet
SO ₂	4.2 kg/MWh	Below Monitor Detection Limits
NO _x	1.5 kg/MWh	0.6 kg/MWh

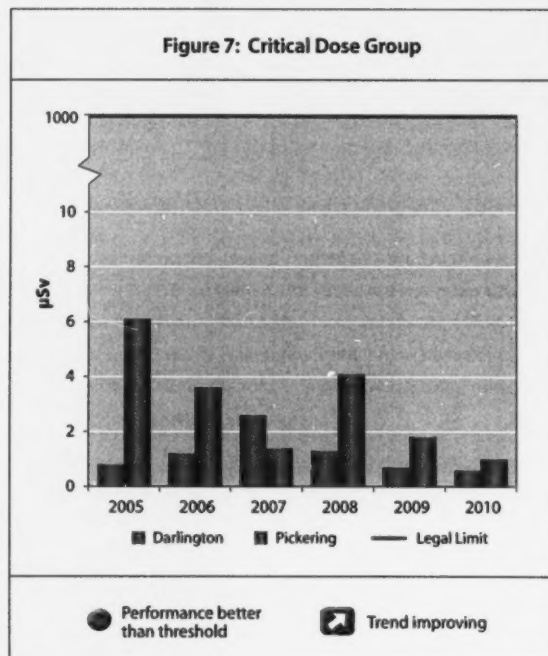
Radiation

The operation and maintenance of OPG's nuclear reactors release very low levels of radioactivity. The robust design of the nuclear plants minimizes these releases through multiple barriers. Air dryers are used to remove tritium from the air, and filters capture particulate matter and iodine. Operating procedures also protect the health of employees and the public.

OPG measures radiation exposure to members of the public who live in close proximity to nuclear plants in accordance with the Canadian Standards Association "Critical Group Dose" methodology. Dose calculations consider the public's actual eating, drinking and living habits, as obtained from survey data, and focus on three distinct age groups: infant, child, and adult. Critical Group Dose is expressed in microsieverts (μSv), an international unit of radiation dose measurement.

In 2010, the official Critical Group Dose calculated for Pickering GS and Darlington GS were 1.0 and 0.6 μSv , respectively. These doses are substantially below the legal limit of 1,000 μSv per year set by the Federal government (figure 7). By comparison, members of the public around the OPG nuclear stations receive an average dose of about 1,300 μSv per year from naturally occurring radiation sources such as cosmic rays and radon in soil.

Figure 7: Critical Dose Group



Climate Change

Greenhouse Gases fast facts

- ▶ Combustion of fossil fuels in Thermal stations emitted 12,700,000 tonnes of CO_2 in 2010
- ▶ In 2010 staff traveled 21,000,000 kilometres in cars and trucks (while on OPG business) emitting 5,706 tonnes of CO_2
- ▶ In 2010, 1.17 kg of SF_6 (equivalent to 28 tonnes of CO_2) was emitted.

Adaptation to Climate Change

It is recognized that climate change could have far reaching effects on Ontario's watersheds. Energy production is very sensitive to the amount, timing, and geographical pattern of precipitation (supply side), as well as temperature (demand side). Changes in river flows and reservoir levels will have a direct impact on how much and when hydroelectric generation can be produced. The challenge for OPG will be to gain understanding of long term climatic trends in order to understand the potential impacts to our operations, and to assess potential new development. This is a first step towards understanding and managing the associated risks, and adapting to the changes. Seasonal variability of precipitation, temperature, evaporation, lake levels and their divergences from normal ranges are the key elements of concern for OPG. In 2009, OPG became an affiliated member of the Ouranos consortium. The consortium pools the expertise and disciplines of numerous researchers to advance the understanding of climate change. OPG is also funding the development of climate change models by the University of Waterloo. The models are to be available by 2012.



▲ Abitibi River, below Otter Rapids GS

Support for Electric Vehicles

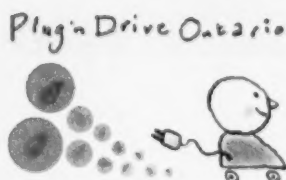
In 2009, Ontario Centres of Excellence, with the support of OPG and other Ontario based companies initiated a study by the University of Waterloo that set out a number of recommendations to help us understand what needs to be done to ensure that Ontario is ready for plug in electric vehicles (PEVs). This report was finalized in 2010 and is available at www.plugndriveontario.ca.

Plug'n Drive Ontario is a coalition of Ontario based electricity companies, auto manufacturers, government agencies, and researchers with the goal of accelerating the adoption and maximizing the environmental and economic benefits of PEV's to Ontario. Given that Ontario's base load generation is virtually free of GHG emissions, PEV's have the potential to make a significant contribution to Ontario's GHG emission reduction goals.

OPG is also implementing its own EV pilot program in 2011 that will include participation in EV 300. FleetWise's EV300 initiative aims to get at least 300 electric vehicles on the road in the Greater Toronto Area by 2012, helping to prepare the region for full-scale electric mobility.



▲ OPG is a member of Plug'n Drive Ontario



Land

Land fast facts

- ▶ The total extent of OPG's land holdings (owned and controlled) is approximately 177,455 hectares of which approximately 22,946 hectares are directly owned.
- ▶ New recycling initiative diverted 300 tonnes of organic river debris from landfill to compost. The debris collects upstream of the Saunders and Iroquois control dams.
- ▶ Hazardous wastes generated: solids - 690 tonnes, liquids - 1,943 kilolitres.

Wastes

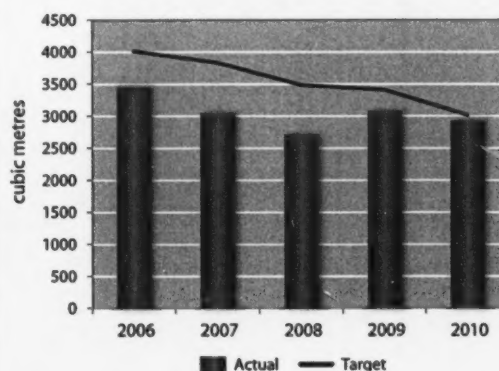
Low and Intermediate Level Radioactive Waste

Nuclear operations produce Low and Intermediate Level Radioactive Waste (LILRW). In 2010, 2,921 m³ of LILRW was produced which bettered the target of 3,016 by six per cent.

OPG's objective is to reduce the impact of radioactive waste on the environment to the lowest achievable levels that are consistent with the social and economic drivers. By reducing the volume of LILRW produced, the environmental impact costs of transportation, storage and disposal are all reduced.

Performance targets have been set progressively lower to drive performance, (figure 8). Compared to 2005, production has decreased approximately 49 per cent, translating to annual savings of over \$8 million dollars. Minor year to year fluctuations can often be attributed to increased maintenance associated with unit outages.

Figure 8: Low and Intermediate Level Radioactive Waste



● Performance better than threshold

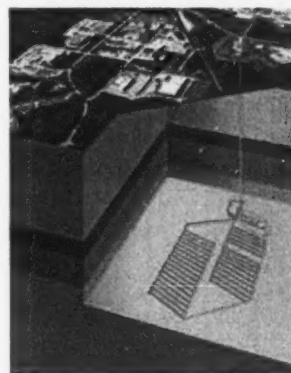
▲ Performance trend improving

Deep Geologic Repository for Management

The proposed Deep Geologic Repository (DGR) to store LILRW at a depth of 680 metres is planned to be located at the Bruce Nuclear site in the Municipality of Kincardine.

In the third quarter of 2010, OPG approved commencement of the detailed design phase of the DGR project for long-term management of LILRW from OPG generating stations. The environmental impact statement is scheduled to be submitted to the Canadian Nuclear Safety Commission (CNSC) in the spring of 2011. The next step is for the Joint Review Panel to be announced and selected.

Following a public comment period, the Panel will hold a public hearing (anticipated in 2012), where stakeholders will have the



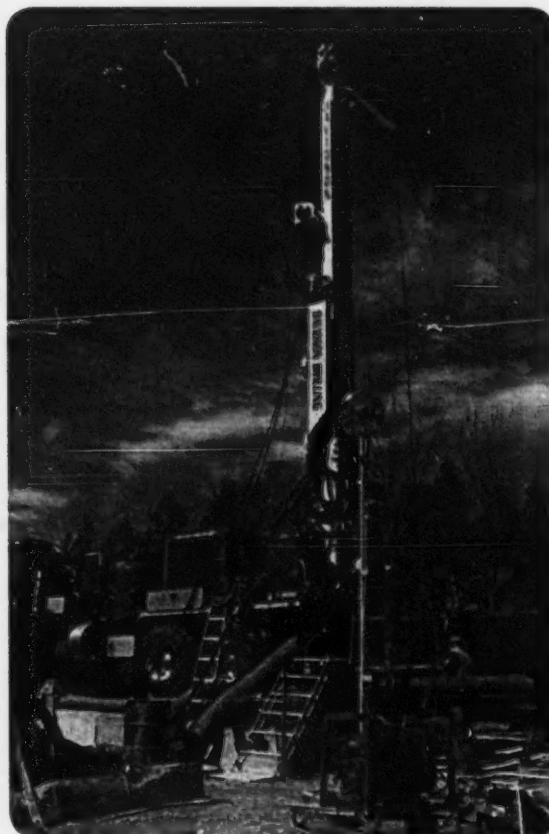
opportunity to present their feedback on the DGR. Pending licensing approval, the earliest the DGR will begin to receive waste is around 2018. The documents can be viewed at nwmo.ca/dgr. Review the EIS summary document.

Deep Geological Repository fast facts

- ▶ Designed to manage ~ 200,000 m³ of low and intermediate level radioactive waste.
- ▶ Only LLRW from OPG-owned or operated nuclear generating stations in Ontario will be accepted at the DGR.
- ▶ Used fuel will not be stored or managed in the DGR.
- ▶ Located ~ 680 m below ground surface in low permeability limestone, safely isolating and containing the LLRW.
- ▶ 450 million year old rock formations; tectonically stable region characterized by low seismic activity where large magnitude earthquakes are unlikely, expected to remain stable for at least the next few million years.
- ▶ Most of the waste volume contains shorter lived radionuclides - radioactivity will decay over time.
- ▶ Project has support of all eight Bruce County municipalities
- ▶ Environment Impact Statement concludes that the DGR project is unlikely to cause any significant adverse effects to human health or the environment.

Ash and Gypsum Diversion

By-products of coal combustion include fly ash, bottom ash and gypsum. Rather than disposing of these by-products as "waste", OPG has developed commercial markets for them. Fly ash is used in cement manufacturing, bottom ash is used as an aggregate replacement, and gypsum is used in wall board manufacturing. In 2010, OPG utilized 68 per cent of its total ash and gypsum production, or 388,885 tonnes out of a total production of 575,140 tonnes. This result reflects a relatively steady rate of utilization of these by-products over the past four years, though less than the highest rate of 74 per cent achieved in 2004. Solid combustion by-products that are not used are sent to a recoverable landfill where they may be subsequently used in the event that commercial markets develop.



▲ Deep Geologic Repository drilling rig

PCB Management

OPG successfully eliminated all of its remaining in-service high-level PCB equipment (excluding PCB lighting ballasts) prior to the end of 2009, as required by regulation. In 2010, OPG shipped approximately 256 tonnes of high and low level PCB waste for destruction. As of December 2010, OPG's inventory of low-level PCB waste and in-service PCB equipment (excluding very low level PCB) was 24 tonnes, as compared to 3,427 tonnes in 1994.

New Federal PCB regulations, enacted in September 2008, created an additional class of PCB equipment, with very low levels of PCB (2-50 ppm) not previously regulated nor included in OPG's inventory. This change has increased OPG's total in-service PCB equipment inventory to approximately 7,800 tonnes (comprising approximately two million litres of oil and approximately six thousand tonnes of equipment). There is no mandated phase-out date for this equipment, but there are controls on its eventual disposal when removed from service.

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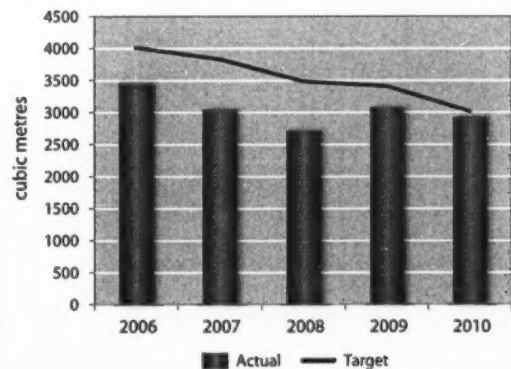
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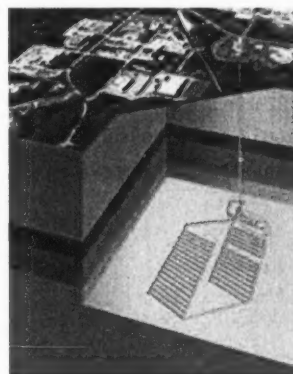
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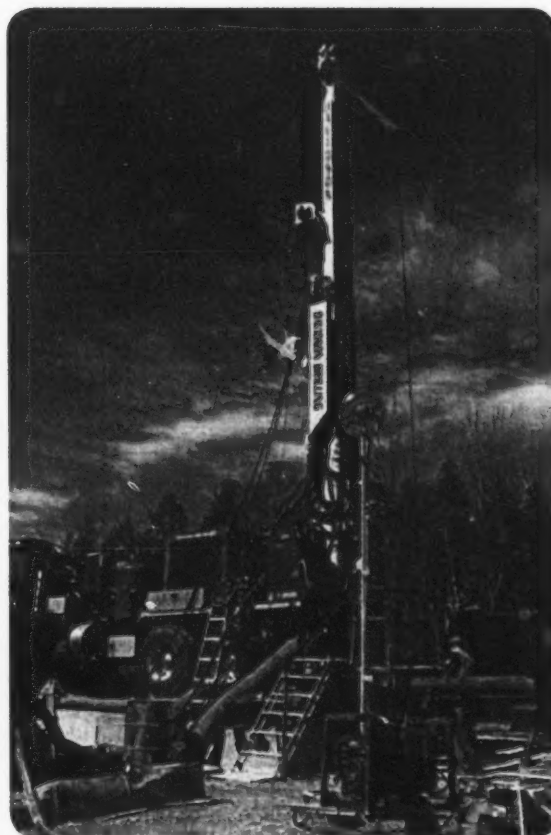
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It has been recently discovered that approximately 13,000 fluorescent light fixtures with ballasts containing PCB (56 tonnes) were abandoned-in-place during a lighting retrofit to improve energy efficiency in the mid-1990's. While regulations did not require the removal at the time, recent federal regulations required removal and destruction of these overlooked fixtures by end of 2009. Removal will be completed over the next few years. The preliminary cost estimate for this work are \$4 million to \$13 million dollars.

Waste Diversion

OPG's Toronto, Pickering and Kipling Head Offices, all met or bettered their waste diversion targets. Diversion rates varied from 78-89 per cent. Of the 1,299 tonnes of waste produced at 700 University Avenue in 2010, 78 per cent was diverted from landfill. In comparison, the City of Toronto diversion rates were 58 per cent by single family residents, 16 per cent by multi-family buildings or 18 per cent by non residential producers. OPG's Head Office paper recycling program saved over 3,000 trees. Rechargeable and non rechargeable batteries including Nickel Cadmium (Ni-Cd), Nickel Metal Hydride (Ni-MH), Lithium Ion (Li-ion), and alkaline were also collected for recycling.

Land Assessment and Remediation

In 1997, in response to a Director's Order from the Ontario Ministry of the Environment, OPG introduced a program to assess and remediate historical contamination on properties occupied by its generating facilities. The contaminants of concern were fuel oil, transformer oil, waste lubricants and tritium. Sites were assessed and ranked as high, medium and low in reference to the need for remediation. OPG's first Site Assessment Plan, filed with the Ministry in 1998 identified 50 high priority sites. OPG has completed all of the assessments required by the Director's Order, and the Order was closed out by the MOE. Assessment of medium and low priority sites continues under OPG's voluntary site assessment program.

As of the end of 2010, remediation of 39 sites had been completed. Remediation of all medium and low priority sites is expected to be complete by the end of 2013. Natural attenuation of contamination at two sites is expected to continue to approximately 2020.

OPG estimates the present value of assessment and remediation for contaminated sites at approximately \$29 million. This amount is fully reserved under the OPG environmental and decommissioning provisions.

Water

Water

fast facts

OPG generation stations use water principally in two ways:

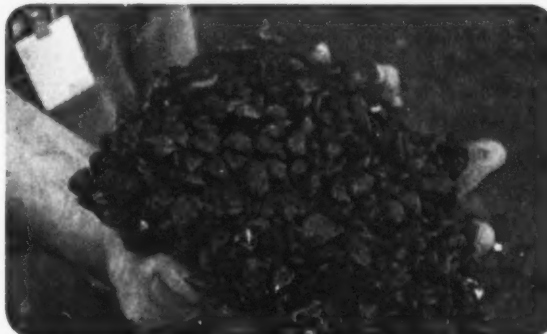
- ▶ Flows through hydroelectric turbines = 400,397 million m³ 2010.
- ▶ Cooling and Service water (non consumptive) at thermal and fossil stations = 12,221 million m³ 2010.

Zebra and Quagga Mussels

Zebra and Quagga mussels are invasive species introduced into the lakes of Ontario a couple decades ago. Colonies of mussels accumulate and clog water-intake pipes and screens at our power generating facilities.

At DeCew GS, trials of a new bacterial control, toxic only to zebra and quagga mussels, achieved a 53 per cent mortality rate (an 81 per cent improvement of trials conducted in 2009). This could result in significant reduction (approximately 80 per cent) in the amounts of sodium hypochlorite required to protect equipment. Less sodium hypochlorite means less exposure for employees and reduced emissions to the environment.

OPG is working closely with the Ministry of the Environment for other potential trial locations and to work towards potential simplification of permitting requirements, which could make use of this green alternative more appealing to industry.



▲ Mussel covered rock from 12 Mile Creek near DeCew Falls GS, St. Catharines



▲ Nanticoke GS Ash Lagoon settling system

Aquatic Thermal Plume – Pickering

In response to a request from the CNSC to monitor the effects of the thermal plume on Lake Ontario fish habitat, temperatures were monitored in the condenser cooling water discharge and at two reference locations, outside the plume between December 2009 and April 2010. In general, the temperatures in the plume were warmer and experienced more exceedances than at the reference locations. The conclusion supports the Environmental Assessment prediction of a minor adverse impact on Round Whitefish. No further activity is planned. The results were reported to the CNSC.

Certificate of Approval Infractions

Due to a number of exceedances of the maximum outfall temperature allowed under its Certificate of Approval (C/A), Pickering B requested and received an amended C/A. The two principle causes of elevated temperatures are equipment failures and algae runs. The barrier net which will prevent algae from clogging intake water screens is expected to reduce the risk of temperature exceedances.

Lake Gibson

The MOE confirmed in 2010 that OPG's assessment of human health and ecological risks pertaining to historic sediment contamination from upstream sources in Lake Gibson addressed all outstanding issues. The Niagara Source Water Protection Committee subsequently determined that this sediment contamination does not represent a threat to the local Emergency Water Supply. Final MOE approval of the Draft Amended Proposed Assessment Report for the Niagara Peninsula Source Protection Area confirming this is pending. Niagara Region Public Health is satisfied that water from Lake Gibson (and Lake Moodie) can be used as a back-up municipal drinking water source with no risk of adverse health effects.

Nanticoke Ash Lagoon

Nanticoke ash lagoon effluent toxicity issues in 2009 were traced to metal concentrations arising from changes in pH. Following a successful full scale test program in 2009, a pH control system was constructed and put into service in 2010. This chemical dosing system has reduced the risk of effluent toxicity incidents in the Nanticoke GS Ash Lagoon System.



▲ Pickering Nuclear fish barrier installation

Fish

OPG's facilities can impact fish in a variety of ways;

- The volume of water required for cooling creates significant currents that can result in fish impingement/entrainment.
- Fish migration can be inhibited by dams and fish can be drawn through hydroelectric turbines.
- Heated discharge from stations can alter habitat.

Any or all of these can negatively impact on fish either through direct mortality or habitat alteration. OPG has a number of programs focused on eliminating, mitigating or offsetting the impacts. Some examples are detailed below.

Mitigating Impingement/Entrainment of Fish at Pickering

In response to a CNSC expectation that Pickering implement effective fish impingement and entrainment mitigation measures, OPG installed a full coverage net barrier around the intake groyne. Pickering has completed its first full year of deployment of the fish diversion system. The goal of reducing impingement by 80 per cent was achieved (actual reduction was approximately 88* per cent). Modifications are planned in 2011 which should further reduce impingement. The CNSC also directed OPG to reduce the impact on the Brown Bullhead and Northern Pike. Greater than 90 per cent reduction of impingement of the Brown Bullhead has been achieved. Deployment of the net has had little impact on impingement of Northern Pike due to the fact that they are more prevalent in winter months when the net is not deployed. OPG, in

partnership with the Toronto Region Conservation Authority, will conduct habitat restoration in Duffin's Creek Marsh during 2011 to improve the spawning habitat for Northern Pike.

American Eel - Saunders GS

The American Eel, has been classified as a species of 'special concern' by the Federal Committee on the Status of Endangered Species in Canada and as an 'endangered species' under the Ontario Endangered Species Act. One of the factors identified in the decline of American Eel is the entrainment of adult eels at hydroelectric stations during their spawning migration. As part of OPG's Action Plan on American Eel and Ontario's Endangered Species agreement for Saunders GS, OPG and our regulatory partners are exploring ways of offsetting turbine mortality (e.g. stocking, trapping and transporting as well as investigating other methods of diverting migrating eels past generating stations).

Since 2006, approximately four million glass eels have been stocked into the Upper St. Lawrence River and Lake Ontario. A 300 meter extension was constructed to the existing eel ladder at the Saunders GS to prevent young eels from being drawn back through the GS in the strong station current after successfully transiting the eel ladder. Further, a new substrate, installed into the existing eel ladder reduced the time (from 24 to about 3.5 hours) and energy required for an eel to ascend the ladder.

* This page has replaced estimated data with actual results.



▲ Sturgeon Index Netting study at OSPG



▲ Bill Fleming stocking glass eels in Upper St. Lawrence/Lake Ontario 2010

Sturgeon

The Ottawa /St. Lawrence River Plant Group (OSPG) have undertaken a proactive initiative to determine whether habitat fragmentation, resulting from hydro-electric dams, has impacted on Lake Sturgeon at our facilities. In response to suggestions that historical spawning conditions have been altered and/or migration routes to traditional spawning areas may have been impeded by the construction of generating stations, OSPG has been researching the degree of impact on the Lake Sturgeon population.

Based on three years of comprehensive study, an artificial shoal for Lake Sturgeon spawning was constructed in 2008 downstream of Chenaux G.S. In 2010, other potential sites for spawning shoal enhancements were assessed for future development below the Chenaux and Chats Falls generating stations. Additional distribution and abundance studies for Des

Joach... and Otto Holden generating stations are presently being discussed with the Ministry of Natural Resources.

Walleye Restoration - Atikokan GS

In 1996, a comprehensive study conducted by the MNR and Ontario Hydro indicated that the Walleye population in Lower Marmion Lake near Atikokan was in decline. While no single cause for the decline was conclusively determined, a contributing factor was believed to be the fluctuating water temperature and flow from OPG's Atikokan Generating Station's discharge, which may have encouraged walleye to spawn too early in the season when downstream lakes were still ice-bound. As a result, it was believed that fry would emerge before there was an adequate food supply. This became such a serious concern that the lakes were closed to Walleye fishing in order to protect the local Walleye population.

▼ Atikokan GS Walleye Weir at Lower Marmion Lake

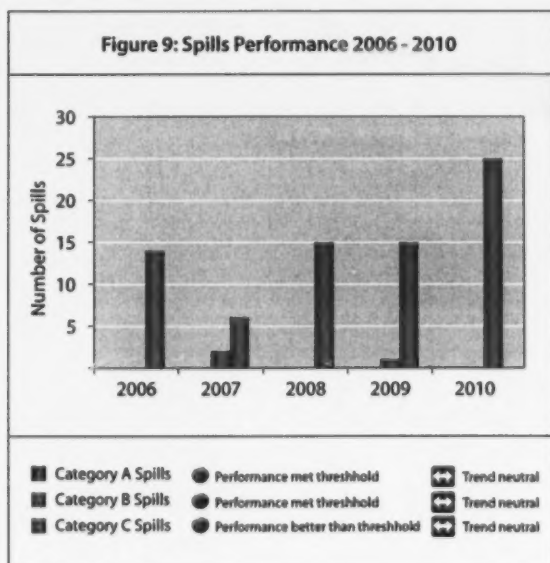


OPG installed a weir at the Abie-Marmion cut to prevent migration of Walleye from Marmion to the Atikokan GS discharge channel. OPG also supported the Atikokan Sportsman's Conservation Club and the MNR to stock 12 million regionally-sourced fry into Marmion Lake over a three-year period commencing in 1998. After 11 years the Walleye population has improved to the point that the MNR has reopened the fishery. OPG contributed over \$500 thousand dollars to build the weir and support the stocking and netting surveys.

Spills

The classification of spills is based on their potential impact on the environment: Category 'A' spills are considered as very serious due to the scope of injury, damage, health effects or safety impairment that occurs or may occur. Category 'B' are considered as serious spills - typically they are more localized in terms of injury or damage. Category 'C' spills are reportable but considered less serious than A or B. These categories mirror the Ontario Ministry of the Environment (MOE) regulations.

OPG spills targets for 2010 were zero for Category A and B and 30 with a goal of continual improvement for Category C. In 2010, OPG experienced zero Category A and B spills while our C Category spills increased from 15 in 2009 to 23 in 2010. While our performance was below the threshold, we failed to achieve our goal of continual improvement in Category C spills (figure 9). Targets for 2011 remain unchanged.



▲ Case Study - Innovative Spill Prevention System at Cameron Falls NWPG

The Northwest Plant Group's (NWPG) commitment to 'Zero Spills' led to the installation of an innovative spill prevention system at Cameron Falls GS. The Plant Group installed spill containment for collection and separation of oil from accidental leaks, using a unique vacuum system to collect leaked material, in combination with a traditional oil/water separator to treat the water prior to discharge into the Nipigon River. The system provides additional spill contingency protection to the Nipigon River with its world class brook trout fishery. It has been over 21 months since Northwest Plant Group's last reportable spill.

Biodiversity and Habitat Stewardship

Every business and industry has effects on biodiversity either directly through habitat loss and fragmentation or indirectly through emissions to land, water and air. The challenge is to manage impacts of our operations, while enhancing the resiliency of the ecosystems in which we operate.

The conservation of biological diversity is an integral part of our sustainable development efforts. OPG's proud history as a company committed to protecting biodiversity is demonstrated by Board and Presidential level policies, leadership on the national and international stages, environmental management systems (EMS), stakeholders' endorsements, and history of financial and technical support for initiatives. OPG's Biodiversity Policy was ground breaking across industry sectors, and remains central to OPG's commitment. The Biodiversity Policy goal, which has existed since the inception of the company, is to reduce the adverse effects of our operations, while enhancing the resiliency of the ecosystems in which we

operate; and to demonstrate that OPG can co-exist with nature without causing or contributing to the long-term decline of species, or the habitats upon which they depend.

Our policy and our conservation efforts demonstrate that industry can and does have a clear role to play in conserving Ontario's biodiversity. It builds on the notion that we should **retain** what is ecologically significant; **restore** habitats which have been degraded; **replace** habitats which have been destroyed, where ecologically and economically feasible; and **recover** the habitats and populations of species at risk. Our work is also consistent with the mission of the Canadian Business and Biodiversity Council, which seeks to engage more business in managing biodiversity as a fundamental part of their on-going operations.

Impacts on biodiversity are recognized as 'significant' and are managed through our Environmental Management Systems. Our generating stations have developed biodiversity plans to help protect and enhance significant habitats and the species they support. To ensure those plans are robust, the majority have been certified and audited by the U.S. based Wildlife Habitat Council. OPG and its predecessor company Ontario Hydro, have been members of the Wildlife Habitat Council since 1996. www.opg.com for listing of awards.

Biodiversity Achievements fast facts

- ▶ Corporate-wide Biodiversity Policy.
- ▶ Biodiversity Policy integrated into all ISO 14001 EMS.
- ▶ Partnerships with Conservation Authorities, stewardship councils, the Long Point World Biosphere Reserve, Ontario Nature, LEAF, the Bruce Trail Conservancy, Earth Rangers, Rouge Park, Trees Ontario, Ducks Unlimited.
- ▶ In 2010, ~ 508,000 native trees/shrubs planted.
- ▶ ~ 4.4 million native trees/shrubs planted on approximately 2,200 hectares of land since program inception in 2000.
- ▶ Nine international excellence in biodiversity awards received from WHC.



▲ Wildlife Habitat Council award presented to Niagara Plant Group

Wildlife Habitat Council Recognizes OPG's Commitment to Biodiversity

The Wildlife Habitat Council's certification process helps to keep our site biodiversity programs dynamic to ensure continual improvement. Fourteen OPG sites have achieved 'Wildlife at Work' designation and five sites have received 'Corporate Lands for Learning' certification. Lands for Learning are specifically designed for community outreach and experiential learning about biodiversity.

OPG's efforts were recognized by the Wildlife Habitat Council, in 2009 with the William H. Howard CEO (Conservation, Education and Outreach) Award.

Examples of OPG's Site Programs Include:

Central Plant Group Species at Risk/Endangered Species – Chimney Swift

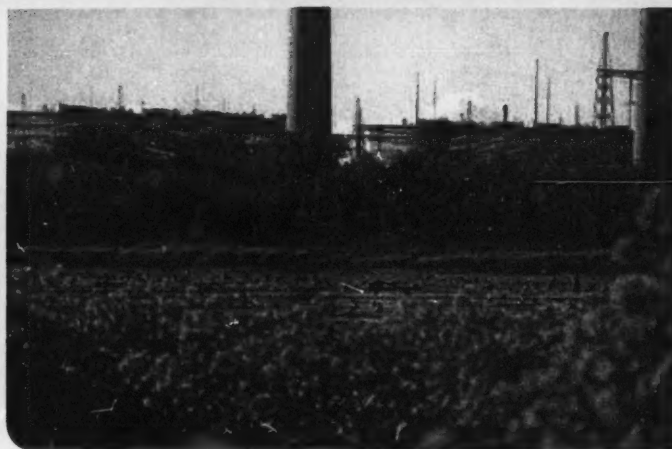
The Central Hydro Plant Group partnered with a Species at Risk Biologist at the Ontario Ministry of Natural Resources and a Master's thesis student at Trent University in Peterborough to obtain information in 2010 on the life history and diet of the Chimney Swift, a species of bird classified as threatened under both the Federal Species at Risk Act, and the Provincial Endangered Species Act, 2007.

Wetlands at Nanticoke

In 2010, a project was initiated for the construction of a five acre wetland. With the assistance of the Long Point Region Conservation Authority the project involved excavating and earthworks along the existing drainage path that bisects the north-west corner of the site. The work was completed in December 2010 in time to receive spring runoff in 2011 and generate new vegetation. The project objectives enhance the site's biodiversity program by providing;



▲ Laura Grady and Lui Perra of Nanticoke GS inspect station wetlands



▲ Lennox GS station and wetlands

1. Increased habitat diversity.
2. Much needed wetland areas for amphibian and reptile breeding and dispersal.
3. Nesting and foraging habitat.
4. Enhanced an educational opportunities.

Enhancing Biodiversity at Lennox

Lennox has a long history of conducting biological studies and assessments including early classification of the wetlands. A survey conducted in 2003, identified a variety of plant and animal species including species considered rare in the Kingston region. An updated biological survey was conducted in 2010 with the objectives of measuring the success of the biodiversity actions taken during the last several years and identifying and implementing additional opportunities to continually improve the Lennox biodiversity program. The final survey report outlined numerous recommendations some of which have already been undertaken and the remainder scheduled for completion over the next several years.

Partnerships at Lambton

A number of partnering habitat enhancement opportunities with the community were initiated at Lambton in 2010:

1. Maintenance and enhancement of the Tallgrass Prairie Plot was completed in partnership with the Rural Lambton Stewardship Network.
2. A new tree plantation was created on-site consisting of 1200 native trees in partnership with the St. Clair Region Conservation Authority.
3. Wildlife Habitat Council – Lambton GS is a member of the WHC Huron to Erie Waterways for Wildlife Advisory Committee and has also been an ongoing sponsor of their annual Biodiversity Event.

4. Canadian Peregrine Foundation – Lambton GS support provided eight area schools with Peregrine visitors / educational events.
5. Bluewater Centre for Raptor Rehabilitation - Provided funding for refurbishment of the Centre's facility for injured and/or orphaned Birds of Prey.

OPG's Corporate Biodiversity Program

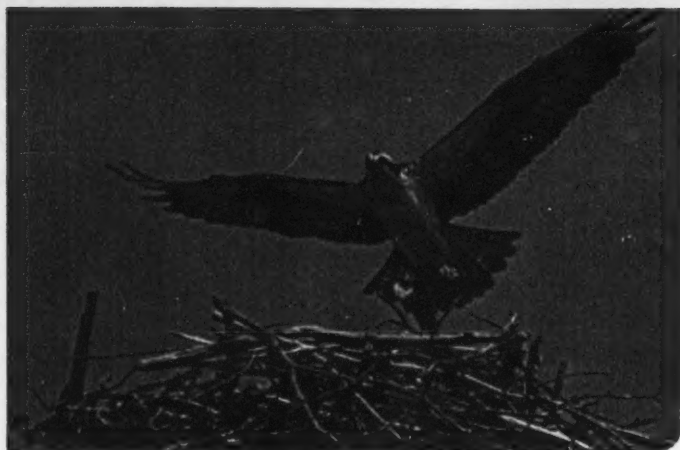
OPG's program is holistic, comprehensive, integrated and innovative.

We recognize that our effects on nature do not stop at the boundaries of our plants, nor do our efforts to protect and restore nature. Accordingly, we have invested in significant habitat protection and restoration efforts in the communities where we operate and in strategic locations across southern Ontario, including some of the most biologically imperilled regions in Canada.

OPG's biodiversity and extensive tree planting program is innovative because it links the need to sequester carbon, thereby helping to mitigate climate change, with habitat restoration for forest wildlife at risk in southern Ontario's highly fragmented landscapes.

Through OPG's Biodiversity Program, we've worked extensively with numerous planting and conservation authority partners within Ontario and demonstrated leadership in advancing biodiversity in business, in Ontario, across Canada and within North America. OPG's presence in the biodiversity realm has been influential in advancing environmental stewardship and sustainability.

There are more 'species at risk' in the Carolinian biotic zone of south-western Ontario than anywhere else in Canada. Protecting and restoring habitat is vital to the recovery of many of these species.



▲ Lennox GS - Osprey nesting



▲ Nanticoke GS employees with WHC certification sign

Close to 508,000 native trees and shrubs were planted in 2010, roughly equivalent to about 15 per cent of the provincial commitment of three million trees annually. Plantings occur in strategic locations to help reconnect the fragmented landscape that characterizes much of southern Ontario, and enhance the resiliency of woodland ecosystems to withstand the effects of climate change, while naturally sequestering carbon dioxide thereby helping to mitigate global warming (figure 10).

Our plantings are targeted to expand key core forested areas and connect woodland patches to help promote the recovery of wildlife that are at risk in the heavily fragmented landscapes of southern Ontario. Sites are identified using regional scale natural heritage systems such as the Carolinian Canada's Coalition's "Big Picture", or a more local refinement thereof. The use of such systems helps us to achieve the greatest ecological and social value for our investment dollar.

Canadian Business and Biodiversity Council recognizes OPG as a Corporate "Champion" because the company has been instrumental in developing and promoting a Canadian version

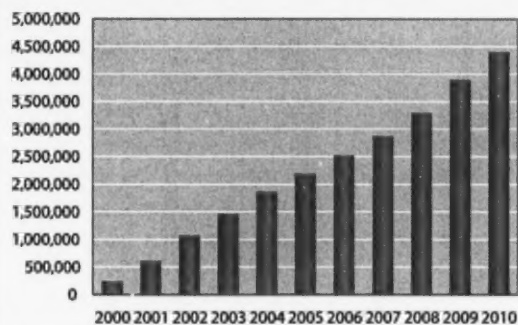
of the Biodiversity Leadership Declaration (a set of guiding principles for business to follow for biodiversity conservation), and has been instrumental in having biodiversity integrated into the Canadian Electricity Association's Sustainable Electricity Program.

OPG has also been a strong proponent ensuring the *Guide to Biodiversity Conservation for Canadian Business* clearly addresses biodiversity issues and meets the needs of Canadian businesses. This guide was released as a pre-publication document at the UN Convention on Biological Diversity meetings in Nagoya Japan in October 2010. The guide can be found on the Canadian Business and Biodiversity Council website (<http://www.businessbiodiversity.ca/guidelines.cfm>).

OPG Nurture's Nature Program

OPG has continued to expand its public outreach program on biodiversity. The program supported environmental events that made it fun and easy for families across Ontario to get involved in conservation efforts. Numerous events were undertaken in 2010 across Ontario in partnership with the following organizations: LEAF – Local Enhancement and Appreciation of Forests; Trees Ontario; Ontario Nature; Bruce Trail Conservancy; Earth Rangers; and Rouge Park. In 2011, we look forward to continuing to bring many more opportunities for Ontarians to grow their appreciation for nature.

Figure 10: Cumulative OPG Tree Planting 2000-2010



Conservation partners have recognized OPG's leadership as follows:

“OPG was one of the first utilities in North America to formally address biodiversity conservation through policy development and implementation in response to the Convention on Biological Diversity. OPG has been well recognized for its work by several external groups, including citations in publications from Environmental Canada Biodiversity Convention Office, the World Business Council for Sustainable Development, and the Electrical Power Research Institute. OPG's Carbon Sequestration and Biodiversity management Program is the most influential ... OPG has been one of the Corporate Champions in the development of the Canadian Business and Biodiversity Council.”

Reg Melanson Executive Director CBBC Sept 2010

“The Wildlife Habitat Council (WHC) recognizes OPG's contribution to the success of industry. On numerous occasions [OPG] has shared their model, vision, and strategy with WHC member companies. WHC is greatly indebted to OPG for the vision, support and encouragement...every action ...is connected to the culture of environmental leader that OPG is.”

Robert Johnson President Wildlife Habitat Council Sept 2010

“We recognize and appreciate the leadership shown by OPG in advancing broader corporate environmental stewardship actions. OPG's leadership role... will advance the collective efforts of many sectors to achieve environmental sustainability throughout the province and beyond.”

Matthew Child Director of Watershed Restoration Essex Region Conservation Authority Sept 2010

“OPG has demonstrated exceptional corporate leadership by investing in significant habitat protection and restoration via its Biodiversity and Carbon Sequestration Program. OPG has provided not only financial resources to restore [habitat] but also the scientific support and guidance to ensure effective[ness].”

Brian Craig Director Long Point World Biosphere Reserve Foundation Sept 2010

Greening OPG's Supply Chain

Environmental responsibility has matured from being simply a regulatory burden, to a business imperative. Studies indicate that a significant percentage of an organization's footprint is associated with its supply chain. As such, supply chains are being recognized as key to improving the bottom line while strengthening environmental performance, social performance and strengthened business relationships. OPG has made a commitment to environmental sustainability which includes its procurement practices. OPG's Supply Chain business unit is governed by a Purchasing and Asset Disposal Policy in which quality, operational impacts, safety and environmental considerations are evaluated in purchasing decisions.

Further, the Nuclear Supply Chain which accounts for the majority of the corporate purchases has an objective to become an upper quartile 'green performer' by 2012.

In 2010, OPG partnered with Ryerson University to develop a tool to evaluate suppliers from an environmental standpoint. The objectives were to create a tool that is objective and repeatable and that uses readily available data. After a great deal of consultation and benchmarking, such a tool was created.

Greening Greater Toronto - Procurement Leadership Council

OPG's affiliation with organizations such as Civic Action's Greening Greater Toronto provides opportunities to combine our buying power with companies in a variety of sectors to influence supplier practices. The Green Procurement Leadership Council is chaired by OPG and comprises several of Canada's largest corporations who have joined together to assess opportunities to encourage green buying. www.civicaction.ca/greater-toronto/

Social Commitment



▲ Pickering Nuclear - Tree planting

OPG is committed to building quality relationships with our external stakeholders and our employees. Most importantly, we strive to ensure that safety characterizes all aspects of our operations. We also believe that a good company gives back to its host communities, thus we support many charitable and not-for-profit initiatives in the communities where we operate.

Key Areas of Social Performance

OPG pursues excellence in a number of social performance areas. Key amongst those initiatives, particularly within the domain of sustainable development, are;

- Code of Business Conduct;
- Worker Safety;
- Employee Wellness;
- Water Safety;
- Outreach and Recruitment: Generating a Future of Possibilities;
- Diversity and Employment Equity: Part of Our Past, A Key Part of Our Future ;
- Relationships with First Nations, Aboriginal Communities; and
- Corporate Citizenship Program (CCP)

OPG's commitment and performance, within each of these areas of focus follows.

Code of Business Conduct

OPG's Code of Business Conduct defines OPG's culture by establishing the standards, expectations and accountabilities for appropriate business behaviour. It is based on the principles of integrity, excellence and citizenship. These principles underpin our business activities. The Code's key non-negotiable values include;

- Respect for each other and our stakeholders,
- Respect for the environment, and
- Commitment to the safety and health of our employees, contractors and the communities in which we work, live and serve.

OPG's Human Resources and Ombuds office are committed to ensuring that our Code of Conduct is understood, applied, and effective. Compliance to the Code is expected of everyone

and employee accountabilities are outlined in the Code. Each member of OPG's Executive Management Team is accountable for monitoring Code compliance within their business and for submitting an Annual Due Diligence Report to the Chief Ethics Officer. Introduction to the Code of Business Conduct training is a requirement for new employees as part of their orientation. All employees review their commitment to the 'Code' annually. The ethical values prescribed by OPG's Code of Conduct are reflected in OPG programs such as; Human Rights, Safety and Wellness, Labour Relations, Outreach, Recruitment, Diversity, Harassment and Violence Free Workplaces.

www.opg.com/about/governance/open/policy

Worker Safety

OPG has an uncompromising commitment to safety. Our goal is zero injuries.

OPG is committed to achieving excellent safety performance, striving for continuous improvement and the ultimate goal of zero injuries. Safety is a fundamental value for OPG where we encourage each employee to demonstrate safety leadership by taking personal responsibility for their own safety and that of their colleagues.

Safety performance is measured using two primary indicators, Accident Severity Rate (ASR) and All Injury Rate (AIR). Overall, OPG's safety performance is consistently one of the best among Canadian electrical utilities. OPG was awarded the Canadian Electricity Association's President's Safety Award (Groups I and II) in six out of the last ten years, in recognition of its top quartile safety performance in ASR and AIR.

OPG's 2010 ASR performance of 2.04 days lost per 200,000 hours was not as strong as the 2009 ASR performance of 1.40 days lost per 200,000 hours. OPG's 2010 AIR of 0.92 injuries per 200,000 hours worked was an improvement over the 2009 AIR of 1.19 injuries per 200,000 hours worked and was the best in OPG's history (see Figure 11). This reduction in injuries, coupled with the number of sites reaching major safety milestones with no lost time injuries, demonstrates OPG's progress towards reaching the goal of zero workplace injuries. Some notable milestones include Darlington Nuclear achieved over eight million hours worked (2.5 years) without a lost time injury and our entire Thermal business achieving one year without a lost time injury (figure 11).

Worker Safety fast facts

- ▶ OPG's safety performance is consistently one of the best among Canadian electrical utilities, being awarded the Canadian Electricity Association's President's Safety Award (Groups I and II) in six out of the last ten years recognizing our top quartile safety performance in ASR and AIR.
- ▶ In 2010, OPG received the ZeroQuest Platinum (Sustainability) Award from the Infrastructure Health and Safety Association. OPG is the first employer in Ontario to receive this award which recognizes OPG's efforts to sustain and continuously improve safety performance, health and safety management, and safety culture over a five year period.
- ▶ All employees and workplaces are represented by Joint Health and Safety Committees.
- ▶ Over 250 employees across OPG participated as Joint Health and Safety Committee members.



▲ On hand to accept the ZeroQuest Platinum Award from the IHSA on behalf of OPG were (from left to right), Wayne Robbins (Chief Nuclear Officer), Scott Martin (VP, Safety), Mary Lou Sinclair (Director, Corporate Safety), Rod Sheppard (President, The Society of Energy Professionals), Tom Mitchell (President & CEO), Brad Carnduff (Vice President, Power Workers' Union), Barb Keenan (SVP, Human Resource-), John Murphy (EVP, Hydro) and Frank Chiarotto (SVP, Thermal).

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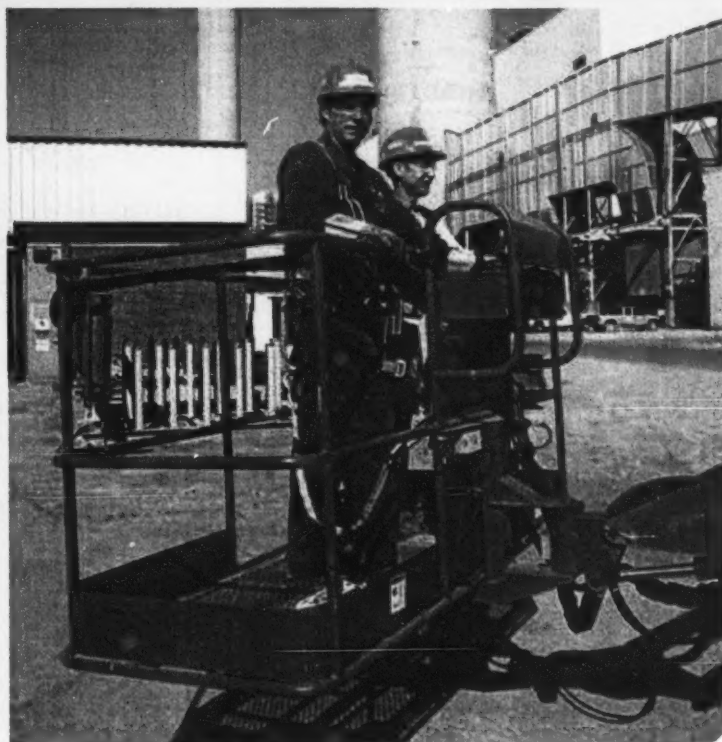
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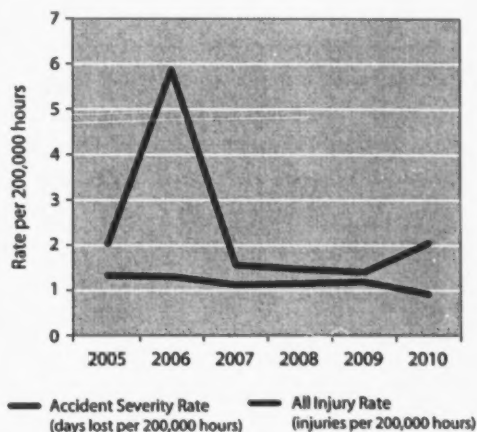
▲ All staff are trained in the use of protective equipment.

While OPG is proud of our successes, we recognize that achievement of our ultimate goal of zero injuries is a continuous journey as we further improve our safety culture and safety management systems. Our key strategy to achieve this goal is through maintenance of defined safety management systems at the corporate and site levels based on the British Standard Institution's Occupational Health and Safety Assessment Series 18001 Standard ("OHSAS 18001"). These systems serve to identify trends to direct targeted improvement programs.

In 2010, performance improvement priorities included:

- **Preventing Musculoskeletal Disorders (MSD).** In 2010, OPG continued to focus on proactive MSD prevention through ongoing awareness for employees and supervisors, incorporation of MSD hazard control into day to day work planning, early reporting of MSD symptoms, and implementation of an employee-driven process to develop ergonomic solutions in the workplace. In 2010, results were positive with employees experiencing fewer MSD injuries than in previous years.
- **High Risk Mitigation.** OPG continued to make improvements to our electrical safety programs following the publication of national standards in this area. Priorities that will continue into 2011 include improvements to

Figure 11: Accident Severity and All Injury Rate



falling object prevention and the application of our work protection (lockout/tagout) process that controls hazardous energies.

- **Partnerships with our unions.** OPG believes that partnership with our unions is an important element of our strong safety culture based on our common goal for a safer workplace. OPG embarked on an initiative with our unions in 2010 to review our Joint Health and Safety Committee (JH&SC) Certification training. The results of this review will improve the knowledge and skills of over 250 JH&SC members in fulfilling their requirements under the Occupational Health and Safety Act (OHSa).
- **Workplace Violence and Harassment.** OPG is committed to a workplace that is free from harassment and workplace violence. In 2010, OPG enhanced our existing policies and procedures to implement new requirements set out in OHSa to protect workers from workplace violence and harassment. This included completing workplace violence risk assessments, and communicating requirements to workers, supervisors and Joint Health and Safety Committees.

- **Young Worker Safety.** OPG extends our commitment to safety into the communities where we operate by participating in initiatives to raise awareness with young workers on the importance of workplace safety. In 2010, as part of this effort, OPG executives partnered with young worker safety advocate Rob Ellis to discuss workplace safety with students at six high schools across Ontario. OPG also shared our best practices in this area at the 2010 Partners in Prevention Conference encouraging other industries to engage in young worker safety initiatives.
- **Contractor Safety.** OPG expects contractors to contribute positively to our strong safety culture. Every year since 2005, OPG's Construction Contractor All Injury Rate (AIR) has compared favourably against the Ontario construction industry as measured by the Infrastructure Health and Safety Association of Ontario. OPG's construction contractors have not experienced a lost time accident while working on our sites since 2008 and in 2010 their AIR of 1.58 injuries per 200,000 hours worked was 75 per cent better than that of the Ontario construction industry.

www.opg.com/safety (corporate safety)

Employee Wellness

OPG believes that employees who maintain a good level of fitness and overall health are more likely to be fit for duty and will be more productive and engaged. Consistent with OPG's Health & Safety Policy, we specifically ask our employees to be accountable for maintaining or taking positive steps to achieve a state of health that is consistent with the demands of their occupation. To support this policy, Wellness provides a number of programs that support employees. Program details are provided below.

WSIB Management

Every year about 200 workers make a claim to the Workplace Safety and Insurance Board for a work related injury. OPG offers a variety of accommodations to workers who are disabled as a result of their injury. The accommodation options include working reduced hours or at more sedentary duties in their usual work, a temporary move to a different job, or in some cases a work-at-home arrangement. The employee benefits from the opportunity to recover while remaining active in suitable work and OPG benefits by retaining the employee's employment contribution.

Disability Management

Ontario Power Generation's Disability Management Program provides income protection benefits and support to employees who are absent from work due to illness or injury. On site occupational health nurses regularly monitor progress and provide restrictions and limitation information to the employee's line manager. A key feature of the program is to support early and safe return to work principles while accommodating employees who require modified duties and/or hours to return to work.

Long-term Disability

Recognizing that returning to work from a prolonged absence can be very difficult, OPG provides additional support to assist those employees who are attempting a return to the workplace from long-term disability. In 2010, 12 employees successfully returned to regular duty from the long term disability plan.

In partnership with our long term disability insurance carrier, return to work barriers are identified. Innovative and supportive rehabilitation approaches are then designed to assist the employee's return to gainful employment. A corporate rehabilitation fund is available to support these return to work programs, reduce the potential budget barriers that may affect local support for return to work initiatives and aid OPG in meeting its duty to accommodate.

OPG helps to ensure that employee wellness is supported through several initiatives and programs, such as:

- family assistance programs provide a range of counselling and referral services to those in need,
- physicians and nurses are available across many sites, and
- access to information and resources related to mental health well-being and reducing negative stereotypes associated with mental health challenges is an ongoing priority for OPG.

Water Safety - Stay Clear, Stay Safe

STAY CLEAR STAY SAFE

OPG's owns and safely operates more than 240 dams and 65 hydroelectric generating stations on 24 river systems throughout the Province of Ontario. Most of these facilities are remotely controlled. As demand for electricity rises and falls throughout each day, frequent

and rapid changes in water levels and flows around our facilities occur. These changes that can affect safety can occur quickly and without warning.

To help ensure public safety around OPG hydro sites, OPG staff work closely with partners in site communities. Safety messages are broadly communicated to the public on television and radio, online, and in newspaper and magazine advertisements, as well as brochures and DVDs. For many years OPG's has had a public water safety outreach program and each year makes improvements to the program.

In recognition of OPG's leadership role in public safety around dams Tony Bennett – Director of Dam Safety and EP was named first chair of new International Commission on Large Dams (representing 90 countries)



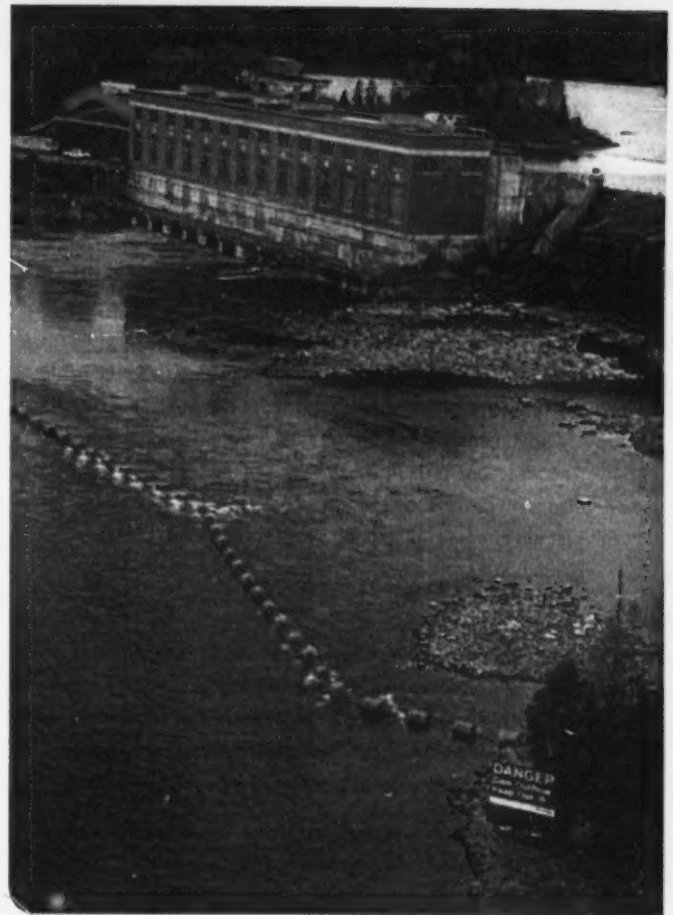
Tony Bennett
Director of Dam Safety

www.opg.com/safety (Corporate Safety, Emergency Preparedness, Nuclear Safety, water safety)

To order a free copy of our new water safety DVD, email your mailing address to watersafety@opg.com.

Nuclear Safety Oversight

The Canadian Nuclear Safety Commission (CNSC) is responsible under the Nuclear Safety and Control Act (NSCA) for regulating all nuclear facilities and nuclear-related activities in Canada. The CNSC grants the stations' operating licences, which set out the regulations and requirements the station must operate under. The CNSC has a presence at each nuclear station in Canada. CNSC staff members have continuous access to inspect our stations and review our activities. CNSC staff report our activities to the CNSC Commission Tribunal, an appointed body of individuals who provide further oversight on nuclear activities.



▲ Alexander GS public safety barriers and signage

For more information on the mandate of the CNSC, go to: www.nuclearsafety.gc.ca/eng/ www.opg.com/safety.

Emergency Management

OPG has developed an emergency preparedness program, in accordance with the OPG *Emergency Management Policy* to ensure that the corporation can effectively and efficiently manage emergencies. The OPG *Emergency Preparedness and Response Plan* (OPG-PLAN-09011.0011-0002) discusses the actions that will be taken to protect the health and safety of employees, the public, and to limit the impact of the crisis on security, production, the environment and our public franchise. Generating facilities are governed and operated according to licensing requirements. OPG's program addresses all relevant and credible natural and man-made risks that could have severe consequences. All OPG facilities, have Emergency Preparedness and Response Plans specific to their respective risks.

www.opg.com/safety

Educational Outreach and Recruitment

OPG is constantly promoting our developmental and full-time career opportunities to potential candidates. We engage in numerous initiatives annually that provide the opportunity to interface with young people and experienced professionals alike.

In 2010, OPG pursued a very diverse outreach portfolio in support of our recruitment, diversity/ employment equity, and corporate citizenship objectives. The following is a snapshot of some of the initiatives that employees proudly participated in on behalf of OPG:

- **Classroom visits/information sessions** to enhance the students' understanding of our career opportunities and the **essential academic requirements** and qualifications they must achieve in order to pursue them;
- **Presented awards/scholarships** at the secondary and post secondary levels;
- **Participation in Career Fairs;**
- **Acted as OPG ambassadors** at various secondary and post-secondary program and curriculum-related events to share how education relates to and could translate to various career paths at OPG;
- **Partnered with various colleges and universities** through participation in curriculum advisory committees and provision of financial contributions to support program and curriculum development;
- **Participation in various conferences, speakers' panels, networking events** targeting post-secondary students, experienced professionals, and members of employment equity designated groups.

In addressing each of our audiences, key messaging encourages students to stay in school and pursue studies in maths and sciences which are essential to many of OPG's career paths.

Websites of interest The Learning Zone www.opg.com,
www.mypowercareer.com

Financial Support for Academia

OPG's support of academia and research and development demonstrates our continued commitment to: providing economic value to our shareholders and in the communities and regions in which we operate; developing a supply of highly qualified personnel to meet future workforce demands; supporting and funding nuclear research in universities; and creating a respected pool of university-based expertise for independent industry and public consultation, ensuring a pool of high qualified individuals is available.

OPG is a founding member of the University Network for Excellence in Nuclear Engineering (UNENE). OPG has committed \$5 million to fund the UNENE program.

OPG has committed \$5 million to Durham College and the University of Ontario Institute of Technology over the next five years. This follows a \$10-million investment into the two institutions from OPG from 2005 to 2010. This is a strategic investment.

Diversity and Employment Equity

OPG embraces diversity in its broadest sense, valuing all human differences that make individuals unique. We strive to create a workforce that reflects the diverse populations of the communities in which we operate, in an environment that is respectful and inclusive of all employees.

An audit of OPG's compliance with the Employment Equity Act (by the Canadian Human Rights Commission (CHRC) in 2009) identified opportunities for improvement. OPG was required to provide a progress report on the achievement of its short-term numerical goals to the CHRC at the end of 2010. To demonstrate progress towards the achievement of its short-term numerical goals, OPG implemented a strategy in 2010 that included:

- A communications campaign to create awareness of the employment equity survey and employment equity initiatives at OPG.
- Implementation of specific measures for each of the designated groups.
- Implementation of other measures described in the Employment Equity Plan.

This strategy resulted in an increase in representation of all designated groups relative to 2009. The following is a snapshot of some of the measures that were implemented in 2010.

General

- A new training program was launched for supervisors in OPG's Corporate, Thermal and Hydro Business Units that includes a module on diversity and employment equity. The training will be expanded into the Nuclear organization in 2011.
- An employee resource group was created for OPG's lesbian, gay, bisexual and transgender employees, resulting in the creation of a team site and invitations to participate in various events.

Visible Minorities

- OPG established a relationship with Skills for Change, a not-for-profit organization that seeks to improve job prospects of internationally trained professionals.
- OPG delivered presentations to new immigrants on interview techniques and job application processes at various organizations including Skills for Change, Employment Ontario and Newcomer Opportunities for Work.

Women

- OPG's emPOWERed Women program, an initiative which began in 2008 to encourage the support and development of women across OPG, achieved continued success in 2010. While the program has always included a mentoring component, in 2010, male mentors were successfully paired with graduates of the program for the first time.



- Partnering with Women in Nuclear, OPG hosted an open house for young women in grades nine to eleven to increase awareness of career opportunities for women in trades and technology.

Colleen Sidford, Vice President, Treasury, has been named winner of the Catalyst Award which honours exemplary initiatives that promote women's advancement. Colleen is an active member and speaker for Women in Nuclear and she is founder of the emPOWERed Women program. With Colleen's support, this program is now an ongoing OPG development program. To date, 240 women from across OPG have participated in the program.

People with Disabilities

- OPG established a team site for its employees with disabilities through which these employees can share experiences, practices, advice, as well as resources and articles of interest.
- OPG created new recruitment advertisements featuring pictures of OPG employees with visible disabilities.
- For more information about OPG's diversity and employment equity initiatives, please see OPG's 2009 Employment Equity Report on the **Diversity and Human Rights** site.

Aboriginal Peoples

OPG's Aboriginal Relations Working Group began to draft an Aboriginal Peoples Employment Strategy in order to integrate approaches to recruitment across OPG's Business Units and to determine an approach to recruitment within the context of OPG's Collective Agreements.

OPG sponsored and participated in career fairs and outreach for Aboriginal peoples including:

- The National Aboriginal Achievement Foundation Blueprint for the Future Career Fair in Thunder Bay.
- The Aboriginal Human Resource Council Inclusion Works 2010 Conference.
- Career fairs for Aboriginal youth coordinated by school boards located in the communities in which we operate.
- Local outreach efforts with neighbouring Aboriginal communities by the Hydro business unit.
- OPG fostered a relationship with Miziwe Bik Aboriginal



▲ Moose Cree First Nation's partnership with OPG on the Lower Mattagami project is the way of the future. L to R John Murphy (EVP, Hydro) Chief Norman Hardisty (Moose Cree First Nation) and Tom Mitchell (President and CEO)

Employment and Training, an organization that provides the Greater Toronto Area's Aboriginal community with training initiatives and employment services.

- The Native Circle, established in 1992, provides an internal network for Aboriginal employees of OPG, to promote awareness of the diversity of Aboriginal people through special events, career fairs, and other programs.

Looking Ahead

In 2011, OPG will continue to pursue opportunities that will assist us in achieving our short-term employment equity goals. In an effort to increase the number of designated group members to be assessed for positions, OPG is in the process of upgrading the online application system to allow applicants to self-identify as a member of a designated group.

By 2012, approximately 30 per cent of our workforce could retire. For some time now, OPG has realized the challenges presented by the demographics of an aging workforce, coupled with the reality of stiff competition for quality talent. In collaboration with others in the electricity sector, in education and in government, and in our unions, OPG is identifying workforce demand and supply issues and developing strategies to address potential shortfalls.

Relationships with First Nations and Aboriginal Communities

OPG Aboriginal Relations continues to evolve as First Nations and Métis assert their existing Aboriginal and treaty rights regarding new development across the province. Throughout, OPG's relationship with Aboriginal peoples remains positive.

The OPG Business Units continue to build strong and positive relationships with Ontario's First Nation and Aboriginal communities. As directed in the renewed Aboriginal Policy (November 19, 2009), OPG remains committed to building long-term mutually beneficial working relationships with Aboriginal communities near to its current and future operations.

The relationship between OPG and Aboriginal communities in Ontario is founded on respect for their languages, customs and cultural institutions. Further, OPG is committed to reaching a mutually satisfactory resolution of grievances with respect to past hydroelectric development. In addition, OPG has vigorously pursued prospective economic partnerships with Aboriginal communities that will provide for long-term commercial arrangements. Underscoring this work is OPG's acknowledgement of the inherent Aboriginal and treaty rights of all First Nations and Métis communities. This remains an important aspect of the company's hydroelectric development agenda.



▲ OPG at Canadian Aboriginal Festival



▲ National Aboriginal Achievement Foundations Blueprint for the Futures - Student Career Fair in Thunder Bay

Relationships with Aboriginal Communities fast facts

In 2010, OPG made considerable progress in pursuing its agenda in the following areas:

- ▶ OPG continues to work with Taykwa Tagamou Nation regarding the definition phase of the New Post Creek project.
- ▶ OPG continues to work with the Chiefs of the Lake Nipigon First Nations and the Métis related to the proposed Little Jackfish Hydro Development Project. Going forward, all participants will work to define and assess the environmental, social, cultural, economic and long-term sustainability of the proposed development.
- ▶ OPG continues to work with its partner the Lac Seul First Nation on the Lac Seul/Obishikokaang Waasiganikewigamig Generating Station in Ear Falls.
- ▶ OPG has reached a Shoreline Agreement with Long Lake #58 First Nation for shoreline rehabilitation.
- ▶ OPG's Thermal's request for indicative pricing for wood based biomass fuels included an Aboriginal participation requirement.
- ▶ Darlington continues to share information with the surrounding Mississauga, Chippewa, Mohawk and Métis communities regarding the Darlington Nuclear New Build.
- ▶ OPG shares information with the Saugeen Ojibway Nations and the Métis in the Bruce Peninsula regarding the Deep Geological Repository.
- ▶ A total of 75 Aboriginal related projects were supported by the OPG Corporate Citizenship Program in 2010.
- ▶ A formal apology was delivered to Taykwa Tagamou Nation in NE Ontario by CEO Chair Jake Epp as part of the settlement of past grievances with the community.

Work continues on the Lower Mattagami Project through the Amisk-oo-Skow Comprehensive Agreement with the Moose Cree First Nation. The Moose Cree First Nation, will have up to a 25 per cent equity share in the project. The agreement between Moose Cree First Nation and OPG and is an important step in a proposed partnership for the development of four generating stations along the Lower Mattagami River. It includes contracting opportunities, training and employment for First Nation community members while also providing benefits to other regional First Nations and Métis communities.

For more information on the Moose Cree First Nation, visit their website at www.moosecree.com.

First Nation Mattagami Lake Dam

OPG's Mattagami Lake Dam development project is a proposed 6 MW facility that would use an existing control dam structure located on the Mattagami River south of Timmins. OPG and the Mattagami First Nation been working together to complete the environmental and engineering studies and intend to develop the facility in partnership.



▲ OPG at Canadian Aboriginal Festival



▲ National Aboriginal Achievement Foundations Blueprint for the Futures - Student Career Fair in Thunder Bay

Relationships with Aboriginal Communities fast facts

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Capacity Building

OPG is committed to working with Aboriginal communities to build capacity, to ensure that Aboriginal employees, potential employees and those working on OPG projects, attain the appropriate skill sets and competencies to enter into meaningful partnerships and employment with OPG. Capacity-building is included in every project involving an Aboriginal neighbour or a partner. In certain cases this may entail training to allow an Aboriginal worker to obtain High School equivalencies or participate in apprenticeship programs.

Projects with capacity building components include: Lac Seul; Mohawk Council of Akwesasne; the Sibi Employment and Training Initiative for Lower Mattagami and Little Jackfish. Capacity building is also a major component of the Peacebuilding Initiative supported by OPG at Six Nations of the Grand River. The Sibi initiative is a multi-million dollar joint undertaking involving OPG, the federal government and the private sector.

[www.opg.com /communityaboriginalrelations](http://www.opg.com/communityaboriginalrelations)

Citizenship

Being a good corporate citizen means giving back to the communities that host our facilities. This principle is one of the cornerstones of our business. It is reflected through the support we provide to local not-for-profit organizations such as

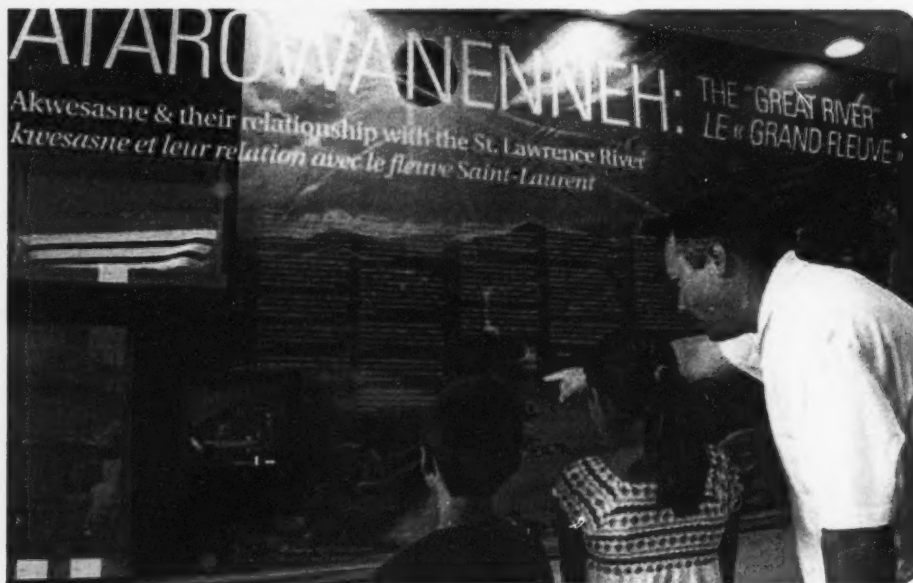
charities, youth sports, education and environmental initiatives, volunteerism and involvement of our employees in their communities.

OPG's relationship with communities and stakeholders is based on trust, cooperation and mutual respect. As a proud and engaged community member, OPG values this relationship and is committed to preserving and enhancing it.

As a primary employer in many Ontario communities, OPG takes seriously its responsibility to be a good corporate citizen and neighbour. Through its Corporate Citizenship Program (CCP) OPG helps make a difference by supporting a variety of grass roots charitable and non-profit initiatives in the communities where OPG operates. Our CCP provides both donation and sponsorship support to initiatives where OPG and our host communities have special interest. This includes initiatives that are innovative and are consistent with the company's commitment to be an engaged and productive member of the community.

Consistent with this commitment, OPG's CCP focuses on small grass roots contributions in the primary focus areas of environment, education and community. Grass root partnerships help build stronger, safer and healthier communities. In 2010, OPG's CCP provided support to more than 1,100 registered charitable and non-profit initiatives including scholarships and student awards.

▼ St Lawrence Visitor Centre's Akwesasne exhibit



▼ New Ottawa/St. Lawrence Visitor Centre



Examples of OPG's Citizenship Efforts

environment

OPG supports a healthier environment for future generations by providing support to innovative environmental initiatives and partnerships that look at solutions - ones that focus on wildlife and habitat restoration, naturalization, biodiversity, recycling and environmental education.



▲ OPG supports the Canadian Peregrine Foundation



▲ Darlington Nuclear supports Envirothon Training day

OPG sites support a variety of environmental education programs. Partnerships include Bird Studies Canada, Ontario Nature, Ducks Unlimited Canada, St. Lawrence River Institute for Environmental Sciences, Scoutree Program Canada, Environmental Earth Angels, The Canadian Peregrine Foundation, The Owl Foundation, Kids for Turtles Environmental Education, as well as, partnerships with local Conservation Authorities, Stewardship Councils and Conservation Clubs/Networks.

Environmental stewardship is top of mind for Atikokan Generating Station employees and their family members, who along with the 4th Atikokan Scouts annually plant trees on the Atikokan site. To-date, participants in this remarkable partnership have planted more than 12,000 trees helping to "green" the Atikokan site, enhance local biodiversity and provide hands-on learning for youth about the importance of environmental stewardship.

OPG is a proud supporter and participant in the annual Durham Region Envirothon. OPG hosted students from across Durham who were in training for the 2010 Envirothon Competition. The Ontario Forestry Association's "Envirothon" is a hands on interactive environmental education program. Teams compete with each other on their knowledge of environmental issues covering aquatics, soils, forestry, wildlife and special issues.

education

OPG is helping to prepare students for future success through our support of a variety of educational outreach programs for primary, secondary and post-secondary levels. Specifically, we focus on projects that promote science, engineering, technology and the trades, environment, and business. Whether it is participating in engineering and science fairs or programs like Scientists in School, OPG and its employees devote tremendous effort to inspire young people and prepare them to be future leaders.



▲ Gord Jeung from Nanticoke GS helps judge the Bay Area Science and Engineering Fair



▲ Shad Valley Intern Akruti

Gord Jeung, Senior Thermal Station Engineer from OPG's Nanticoke Generating Station helped judge science fair projects at The Bay Area Science and Engineering Fair held at McMaster University in 2010. The science fair involved more than 300 students from Grades 7 to 12 from Hamilton, Halton Region and Haldimand, Norfolk and Brant Counties. The Bay Area Science Fair is one of 12 local and regional science fairs supported annually by OPG.

OPG undertakes numerous mentoring and literacy initiatives, including the Timmins Native Friendship Centre's Annual "Stay Cool, Stay in School", the Lieutenant Governor of Ontario's Aboriginal Youth Summer Reading Camp Program and The Organization for Literacy (Sarnia-Lambton) Petrolia After School Skill and Drill Program.

Since 1999, OPG has been a proud supporter of the award winning Shad Valley program. This unique development program for senior high school students, combines academics and business internship to help develop our next generation of innovative leaders. Shad Valley alumni include, patent holders, Top 40 Under 40 and 21 Rhodes Scholars to name only a few. Since 2008, Lambton GS has proudly sponsored summer interns from this program.

Education at Thunder Bay - Learning Trail at Mission Island Marsh

Thunder Bay Generating Station (TBGS) is located next to Mission Island Marsh which is administered by the Lakehead Region Conservation Authority (LRCA). Thunder Bay's relationship with the LRCA dates to the early 1960s when OPG built the generating station on Mission Island. The unique challenge has been to operate a thermal electricity generating station "next door" to a rare and bio-diverse marsh. To this end, the station launched an Environmental Education Program, including supporting a Learning Trail at Mission Island Marsh.



▲ Nanticoke GS Plant Manager, Craig Wardrop at Scientists in School program

Scientists in School

OPG is a proud supporter of Scientists in School (SIS), one of the largest and most respected science education outreach organizations in Canada. SIS present fun and interactive half day workshops to elementary students such as; Energy Makes It Happen, and What in the World is Matter? Hands on learning aims to encourage young people's interest in science, engineering technology and the environment. By 2011, SIS expects to reach 70,000 students in the Regions of Niagara and Durham and in Haldimand and Norfolk counties.

community initiatives OPG contributes to the quality of life in the communities in which we operate. In addition to local environmental and educational initiatives, we support health and safety organizations, arts and cultural initiatives, humanitarian organizations (food banks, shelters) and local youth amateur sports initiatives.



▲ Lennox supports opening of new soccer field

Examples of OPG supported community initiatives include:

Members of the Loyalist Minor Soccer Association, along with representatives from the Township Council, and Recreation Committee and Lennox GS were on hand for the opening of the new official-sized soccer field at the W.J. Henderson Recreation Centre in Amherstview, one of over 250 youth amateur sports teams / initiatives sponsored by OPG.

One of several health and safety initiatives supported by OPG in an effort to help build healthier and stronger communities was the Ottawa Plant Group's support for the Deep River and District Hospital Foundation's emergency room equipment campaign.

Farmer's markets hosted by Pickering Nuclear in conjunction with Durham Farm Fresh and local farmers were a hit with employees and local residents.

OPG is proud to support agricultural initiatives such as Durham Farm Fresh, Durham Region Farm Connections and Agriculture Fairs that highlight the important role farmers play in our daily lives.

Interactive Relationships

Ontario Power Generation is committed to being an open, accountable, and responsible presence in the communities where we operate. We have fostered strong partnerships with our stakeholders including our host communities. These relationships are a direct result of the regular communication we have with community leaders, Aboriginal communities and residents about our operations.

Formal long standing relationships with stakeholders underscore OPG's commitment to being a responsible corporate citizen through engagement, communication, collaboration, and cooperation. Examples of engagement include:

Regulators: ongoing communication, liaison, and routine meetings.

Employees: capacity building programs, communication, joint health and safety committees, volunteerism, annual charity campaign.

Union: approximately 90 per cent of full time staff are represented by a collective bargaining unit. Additionally OPG recognizes 22 craft unions.

Public: safety campaigns (partnered with the OPP), involvement in project assessment and reviews, standing public advisory councils, partnerships with organizations such as Ducks Unlimited and regional conservation authorities, active membership on Boards of Trades, Chambers of Commerce, hospital boards and community-based organizations such

as the Durham Strategic Energy Alliance and the Sarnia Lambton Environmental Association enables OPG to engage in community initiatives. Across the province, OPG uses a variety of approaches to communicate with its communities including, face-to-face contact, open houses, public meetings, newsletters, and the media.

Aboriginal: involvement in assessing environmental, social, cultural, and long-term sustainability of projects, capacity building and settlements.

Peer Industry Groups: participation includes membership in organizations such as the Canadian Electricity Association, Canadian Energy Efficiency Alliance, Infrastructure Health and Safety Association, International Commission on Large Dams, World Association of Nuclear Operators (WANO).

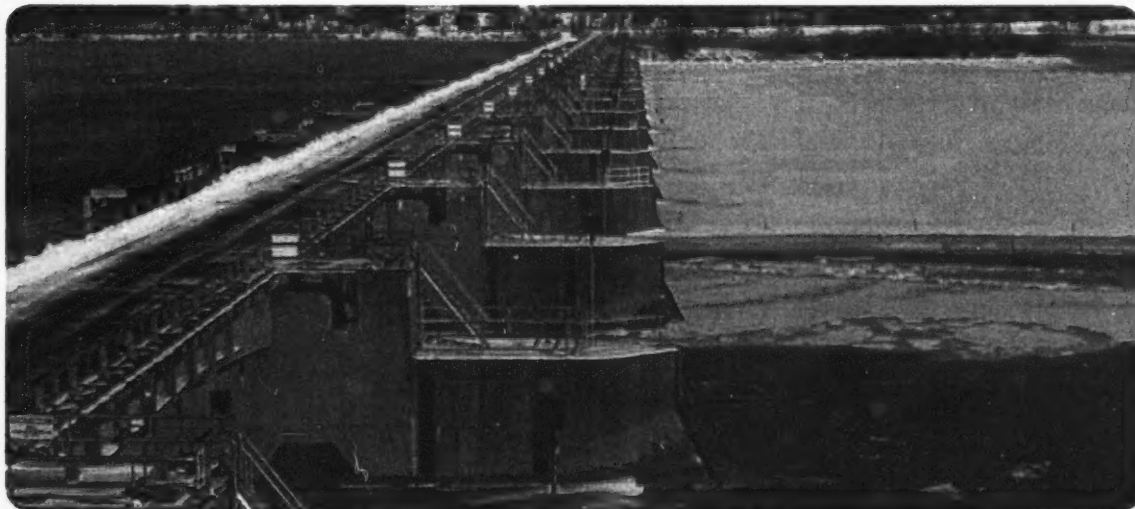
Academia: funding scholarships, Chairs at Universities, mentoring and partnerships.

In many cases, as outlined below, OPG goes beyond traditional communications and works with communities to collect stakeholder views and resolve issues.

Working with Stakeholders and Partners at Hydro Operating Facilities

Responsible, effective and efficient use of water requires co-operation, co-ordination, and consultation among Ontario Power Generation, other utilities, many different levels of government, and with local communities and other stakeholders. Water levels and flows on international and

▼ International Control Dam - Niagara Falls



interprovincial waterways - such as the Niagara River system, the St. Lawrence and Ottawa Rivers, and Lake of the Woods - are regulated by international treaty, or federal, provincial and inter-utility licenses, agreements and legislation. OPG is an active participant when authorities overseeing these waterways hold annual public meetings to provide information and identify issues.

Most Ontario watersheds where OPG has hydro facilities are subject to Water Management Plans. Development of these plans is led by Ontario's Ministry of Natural Resources with active participation of OPG, Aboriginal communities, conservation authorities, environmental groups, cottager associations and recreational users. Advisory committees meet regularly. Annual public meetings are held and working groups are established to address specific issues. Current information on water systems and flows is provided on OPG's corporate website.

Many of the plants have established community liaison groups with the objective of exchanging ideas with a cross section of community representatives.

Consulting on New Developments

When undertaking a new build or refurbishment project, OPG initiates an extensive public consultation process which provides stakeholders with a forum to learn more about the project status. The Darlington New Nuclear Project Environmental Assessment (EA) is an example of OPG striving to ensure that the views and perspectives of the community, residents and the public were considered in the EA through multiple activities including: direct mailings to households and businesses in Clarington and Oshawa, community events (fairs, trade shows, etc), kiosks, Community Information Sessions, stakeholder interviews with community organizations, and regular updates to 13 Regional and Municipal Councils, existing community committees (Nuclear Health Committee, Site Planning Committee, Community Advisory Committee), and other stakeholder groups.

Conservation of Heritage Properties

The Ministry of Tourism and Culture's Standards and Guidelines included OPG as a 'prescribed public body'. As such, OPG is required to develop a time frame for development of an identification and evaluation process by June 30, 2011.

▼ Earth Angels Biodiversity event at Alex Robertson Park



Economic Contribution



"OPG's strong commercial focus does not contradict our public power status. We would never compromise our commitment to safety or to the environment simply to save money or earn a greater profit" (Tom Mitchell, OPG President and CEO). OPG's presence has a measurable positive economic impact on the government and for our host communities.

Key Areas of Economic Performance

OPG strives to bring value to Ontario, the communities in which we operate, and to its employees, through a variety of responsible "best business" practices. Accordingly, key areas of focus for OPG, particularly in reference to sustainable development, include:

- OPG's financial strength benefits Ontario;
- New Hydroelectric projects - provide more clean energy;
- New nuclear and refurbishment - ensure reliable and virtually emissions-free electricity;
- Thermal unit conversion to natural gas and biomass;
- Well maintained assets enhance reliability;
- Employee compensation and provincial payments; and
- Purchase of goods and services.

On the production front, OPG generated 88.6 TWh – nearly 4 TWh lower than 2009 production. Low water levels and the Pickering station outage were major factors behind the drop in production. Our Thermal stations helped offset this decline by increasing output by more than 30 per cent to meet peak demands through the summer months. This flexibility is a principal characteristic of OPG's diverse generating portfolio.

Economic Contribution fast facts

Successful completion of several major capital projects, including:

- ▶ Pickering Unit 2 and 3 safe storage project. This project which took 5 years, involved approximately 500,000 hours (500 employees), had only one lost time injury, and was two weeks ahead of schedule, and 15 million under its 350 million budget.
- ▶ The Upper Mattagami and Hound Chute Re-development Project. Completed close to five months ahead of schedule and under budget. At its peak employed 500 workers including skilled trades, labourers, and engineers.
- ▶ The Healey Falls Project. Added a fourth unit to an existing station to increase capacity by 6 MW and annual energy output from the station by about 24 GWh; the project was delivered three months ahead of schedule.
- ▶ Abitibi Canyon Rehabilitation project was completed under budget and ahead of schedule.

Figure 12: OPG Year End Results



OPG's commitment and performance, within each of these areas of focus, follows.

OPG's Financial Strength Benefits Ontario

OPG's 2010 net income was \$649 million, compared to its 2009 net income of \$623 million. Much of our net income is due to strong performance of our nuclear funds, resolution of outstanding tax issues, and holding the line on costs. Cost control continues to be a key priority. These factors were partially offset by four TWh lower generation due to lower water levels and the planned maintenance shutdown at Pickering.

Rate Structure: The current prices which OPG receives for power from its nuclear stations and base load hydroelectric operations are set by the Ontario Energy Board (OEB). OPG did not seek an increase in the rates that were in effect for electricity from its regulated assets in either 2009 or 2010. Given the economic downturn, we opted instead to pursue cost reductions and achieved savings of \$85 million.

Coal Closure Announcement: Nanticoke and Lambton Units October 1, 2010

Four coal units, Units 3 and 4 at Nanticoke and Units 1 and 2 at Lambton, have been permanently shut down. This action is part of OPG's managed approach to phasing out coal by the end of 2014. The early closure of the Lambton and Nanticoke units will remove surplus generating capacity from Ontario's electricity system as well as save customers approximately \$200 million in operating and maintenance costs between late 2010 and the end of 2014.

New Nuclear and Darlington Refurbishment

New Nuclear at Darlington

OPG's reputation as a capable nuclear operator was confirmed in June 2008, when the Ontario government chose OPG to operate two new nuclear units at its Darlington Nuclear site. On June 29, 2009 the Ontario Government suspended the competitive request for proposal process to procure two new nuclear reactors for the Darlington site. OPG continued with the environmental assessment and site preparation license process.



▲ Darlington Nuclear Site

The Joint Review Panel for the Darlington New Nuclear Project announced that it will proceed to the public hearings phase of the Environmental Assessment. The Environmental Impact Statement, licence application and additional information and the records that have been generated by the Panel or received in the course of the review are available on the Canadian Environmental Assessment Registry Internet site (the Registry) at Reference Number 07-05-29525.

Darlington Nuclear Refurbishment

Initial studies on the plant's condition and continued strong performance supported the business decision to move forward with a refurbishment of the Darlington Nuclear Station. Mid-life refurbishment construction activities are projected to commence around 2016.

Refurbishing Darlington GS will enable the 3,500 MW station to continue to meet Ontario's electricity needs for decades to come.

Pickering B Nuclear Refurbishment

Refurbishment of Pickering B will not be pursued. OPG will invest approximately \$200 million to continue the safe and reliable performance of the plant for about the next ten years, after which the decommissioning process will commence.

Well Maintained Assets Enhance Reliability

OPG operates a wide range of both newly constructed and established generating facilities across Ontario. Proactive improvement programs, regular maintenance and targeted equipment upgrades keep these assets operating at high levels of efficiency and reliability (figure 12).

- Two units at Darlington GS ranked in the top five CANDU performers worldwide.
- Since 2004, Hydro availability has consistently been well into the 90 per cent range. This is one of the best records of any hydroelectric fleet in North America.
- On the Thermal side, our plants continued to be ready to provide electricity when needed during peak demand periods in the winter and summer months. Their reliability has dramatically improved over the past five years. For 2010, Thermal's forced outage rate (EFOR) was 7.3 per cent compared to nearly 19 per cent in 2004. This reflects our targeted maintenance programs and current operating strategy, which optimizes the number of coal-fired units that we offer into the market.

All of this translates into more reliable and efficient electricity generation to benefit Ontario.

www.opg.com/investor (financial reports, news releases, contact and information request)

Hydro Development - Improvements Continue

OPG's Hydro business, consistent with government direction to expand, develop and/or improve its hydroelectric generation capacity, completed two expansion projects in 2010, increasing capacity by 21 MW.

Lower Mattagami Project

In June 2010 OPG began construction on the \$2.6 billion Lower Mattagami project which involves making better use of existing water at four sites: Harmon, Kipling, Little Long, and Smoky Falls. This is the largest (over 100 MW) northern hydroelectric generating construction project in 40 years. The development will expand the capacity of four existing stations from 486 MW to 924 MW of clean, renewable, dispatchable, peaking power (enough electricity to power between 330,000 and 440,000 homes). The project does not result in any new flooding and therefore, environmental impacts are minor and mitigable. During the five years of construction, approximately 600 people will work on the project annually, with a peak of over 800 jobs. In total, the project will create over 4,000 person years of direct, and indirect employment; including skilled trades, labourers, and engineers. Over 70 per cent of the direct employment is expected to be drawn from Northern Ontario. Currently 180 Aboriginal people are working directly on the project. The Moose Cree First Nation is OPG's partner in the project and will have up to a 25 per cent equity share in the project and significant business and employment opportunities.

OPG Made Significant Progress on the Niagara Tunnel Project

The Niagara Tunnel remains one of Ontario's most economic infrastructure projects with respect to its long-term value as an added source of clean renewable hydroelectric energy. The Niagara Tunnel ended 2010 with the tunnel boring machine about 90 per cent of the way through its 10.2 kilometre journey under the City of Niagara Falls. As of the publication date, tunnel drilling was complete. It is expected that construction of the concrete lining, intake structure and outlet structure will be completed in time to begin tunnel operation in 2013. When finished, water delivered through the Niagara Tunnel will increase clean renewable hydroelectric generation from OPG's Sir Adam Beck stations by 1.6 TWh per year for more than 90 years.



▲ Niagara Tunnel

▼ Official kickoff: Energy Minister, Brad Duguid, Moose Cree First Nation Chief Norman Hardisty and OPG President and CEO Tom Mitchell, visited workers of the Lower Mattagami Project at the Little Long Dam.



Little Jackfish River Hydroelectric Project

OPG continued development work on its Little Jackfish River Hydroelectric Project, a potential 75 MW green field project north of Lake Nipigon. OPG is emphasizing sustainability by mentoring students from Queen's University who were asked to design a sustainable work centre that balances economic, environmental and Aboriginal cultural design factors. Aboriginal cultural considerations seek to better integrate the proposed work centre in the traditional territory of the Lake Nipigon First Nations (LNFN).

OPG is working with the LNFN to develop a commercial partnership on the project. The Project hired several local LNFN workers to support geotechnical and Environmental Assessment (EA) field work. The OPG Project Team is working cooperatively with Resource Development Advisors in each Lake Nipigon First Nation to consult community members and develop a joint EA for the Project.

New Post Creek Project

The New Post Creek Project is a greenfield construction of an estimated 25 MW of hydroelectric generation and will be undertaken by the partnership between Coral Rapids Power, a company wholly owned by Taykwa Tagamou Nation and OPG. The project is expected to generate 127 GWh of electricity annually.

Pumped Storage

Pumped storage refers to pumping water into a reservoir during periods of low demand (e.g. nights and weekends) for use during periods of high demand. This enables more effective use of the water. Sir Adam Beck (SAB) Pump Generating Station (PGS) in Niagara has a capacity of 174 MWs.

OPG's SAB PGS is the only pumped storage facility in Canada. It was the largest pumped-storage plant in the world with 174 MW of capacity when it was commissioned in 1957. SAB PGS allows storage of excess water during off-peak hours. During the peak hours, the stored water is released from the reservoir to generate power both at the pump station and again at the Sir Adam Beck generating station. This unique arrangement and high efficiency turbines make the Sir Adam Beck complex one of the most efficient power generation systems in Canada.



▲ Sir Adam Beck pumped Storage reservoir

Employment fast facts

OPG has:

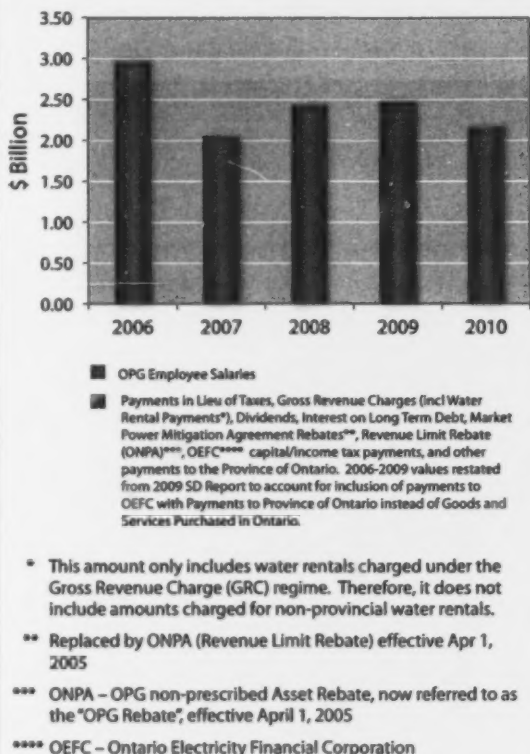
- ▶ Approximately 11,800 full time employees.
- ▶ Approximately 1000 contract casual construction and non regular staff.
- ▶ 261 external hires in 2010.
- ▶ 1,157 internal hires (includes horizontal and vertical job changes) in 2010.
- ▶ Percentage annual turnover due to retirement 3.6 per cent, due to attrition 4.7 per cent.
- ▶ By 2012, 30 per cent of the workforce is eligible to retire.
- ▶ The majority of the full time employees are represented by either the Power Workers Union (6800) or the Society of Energy Professionals (3700). OPG also recognizes 22 craft unions.

Employment

Employee Compensation and Provincial Payments

In ongoing efforts to attract and retain a highly qualified workforce, OPG offers employees competitive compensation. In 2010, compensation to OPG employees totalled approximately \$1.54 billion (see Figure 13). Recognizing that most OPG employees live in Ontario and purchase their goods and services locally, this compensation directs a substantial transfer of wealth back to the Province.

Figure 13: OPG Salaries and Payments Made to the Province of Ontario



OPG creates additional benefit for the provincial economy through payments made in lieu of taxes, gross revenue charges (including water rental payments*), dividends, interest on long term debt, Market Power Mitigation Agreement Rebates**, Revenue Limit Rebate and other payments to the Province of Ontario (figure 13). In 2010, these payments totalled nearly \$625 million (see notes, figure 13).

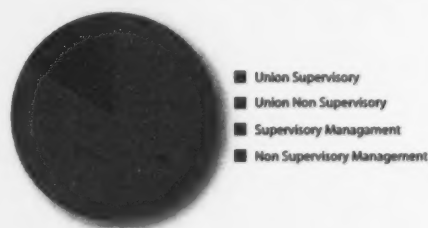
Demographics

For some time now, OPG has realized the challenges presented by the demographics of an aging workforce, coupled with the reality of stiff competition for quality employees. By 2012, thirty per cent of the workforce is eligible to retire. In collaboration with others in the electricity sector, in education, in government, and in our unions, OPG is identifying workforce demand and supply issues and developing strategies to address potential shortfalls. For a breakdown of employees by category and new hires refer to figure 14.

Figure 14: Employment Percentages



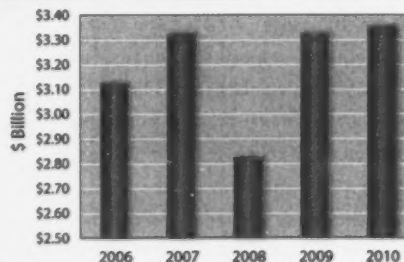
New Hires by Employment Sub-Category



Purchase of Goods and Services

OPG provides support to the Province of Ontario through the purchase of goods and services. In 2010, the total purchase of goods and services in Ontario by OPG totalled \$3.36 billion. (figure 15).

Figure 15: Goods & Services Purchased by OPG in Ontario



GRI Indicator Alignment

Disclosure No.	G3 Indicator	Page
Economic Performance Indicators		
EC1	Economic value generated and distributed	44-49
EC2	Climate change	16
EC6	Procurement from local suppliers	49
EC7	Local hiring	48
EC8	Infrastructure investments that benefit local communities	45-48
EC9	Indirect economic impacts	44-49
Environmental Performance Indicators		
EN1	Materials used by weight of volume (PCBs)	19
EN3	Direct energy consumption	App B
EN5	Internal energy efficiency	11
EN7	Reduction of internal energy consumption	11
EN8	Total water Withdrawal by Source	20, App B
EN12	Description of impacts on biodiversity	22-25
EN13	Habitats protected or restored	22
EN14	Management of impacts on biodiversity	22
EN16	Greenhouse gas (GHG) emissions	13, App B
EN17	Other relevant GHG emissions	16
EN18	Initiatives to reduce GHG emissions	11-15
EN20	Emissions of NO _x , SO _x and other pollutants	13, App B
EN22	Total quantity of waste	18-20, App B
EN23	Number and volume of spills	24, App B
EN26	Environmental impact management	11
EN28	Non-compliance with environmental regulations	11
Social Performance Indicators		
Labour Practices and Decent Work		
LA1	Total workforce	48, 49
LA2	Total number and rate of turnover	48, 49
LA4	% of employees covered by collective bargaining	42, 48
LA6	Joint health and safety committees coverage	30

Disclosure No.	G3 Indicator	Page
Labour Practices and Decent Work cont'd		
LA7	Work related injuries, diseases, absenteeism	30, 31
LA8	Assistance with serious diseases	32
LA10	Training	34, 38, 40
LA11	Skills development and training	34, 38, 40
LA13	Diversity and equal opportunity	34
Society		
SO1	Management of impacts on communities	38-43
Product Service Responsibility		
PR1	Life-cycle analysis for health and safety of products and services	28, 29
Electric Utility Sector Supplement		
Company Profile		
EU1	Installed capacity	3, App B
EU2	Net energy output	3, App B
Economy - Management Approach		
EU6	Availability/reliability	45, 46
EU8	Research and development activity and expenditure	34
Labour practices and disclosures		
EU 14	Programs to ensure availability of skilled workforce	34, 35, 36, 38, 40, 41
EU 15	Per centage of employees eligible to retire	48, 49
EU 16	Policies and requirements regarding H&S of employees and contractors	30-32
Societal Performance Indicators		
SO3	% employees trained in anti corruption policies and procedures	29, 30
Social - Society - Management Approach		
EU19	Stakeholder participation in decision making process	42, 43
EU 21	Emergency preparedness and response	33
Social - Product Responsibility - Performance Indicator		
EU25	Injuries and fatalities involving company assets	30-32
EU30	Plant availability - capacity factor	45, 46

SUSTAINABLE DEVELOPMENT PERFORMANCE

Appendix A

Nuclear										
General Information										
Pickering A & B GS	Generation (net GWh)					Critical Group Dose (µSv)				
Generation capacity:	2010	2009	2008	2007	2006	2010	2009	2008	2007	2006
Pickering A: 1,030 MW net	19,236	20,761	19,123	16,855	19,801	1.0	1.8	4.1	2.6	3.6
Pickering B: 2,064 MW net										
Located on Lake Ontario in the city of Pickering, each generating station has 4 units. Two of the 515 MW Pickering A units taken out of service during the nuclear recovery program will not be refurbished.										
Number of used fuel bundles stored on site: 625,357										
Tel: (905) 839-1151										

Darlington GS										
General Information										
Darlington GS	Generation (net GWh)					Critical Group Dose (µSv)				
Generation capacity:	2010	2009	2008	2007	2006	2010	2009	2008	2007	2006
3,512 MW net	26,549	26,037	28,840	27,155	26,968	0.6	0.7	1.3	1.4	1.2
Located on Lake Ontario in the municipality of Clarington, 70 km east of Toronto. This generating station has 4 units.										
Number of used fuel bundles stored on site: 388,503										
Tel: (905) 623-6670										

- Ontario Power Generation for the years ended December 31
- Totals may not add up due to rounding

GRI Indicator Alignment

Disclosure No.	G3 Indicator	Page
Economic Performance Indicators		
EC1	Economic value generated and distributed	44-49
EC2	Climate change	16
EC6	Procurement from local suppliers	49
EC7	Local hiring	48
EC8	Infrastructure investments that benefit local communities	45-48
EC9	Indirect economic impacts	44-49
Environmental Performance Indicators		
EN1	Materials used by weight of volume (PCBs)	19
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EN7	Reduction of internal energy consumption	11
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EN17	Other relevant GHG emissions	16
EN18	Initiatives to reduce GHG emissions	11-15
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LA1	Total workforce	48, 49
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Disclosure No.	G3 Indicator	Page
Labour Practices and Decent Work cont'd		
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LA8	Assistance with serious diseases	32
LA10	Training	34, 38, 40
LA11	Skills development and training	34, 38, 40
LA13	Diversity and equal opportunity	34
Society		
SO1	Management of impacts on communities	38-43
Product Service Responsibility		
PR1	Life-cycle analysis for health and safety of products and services	28, 29
Electric Utility Sector Supplement		
Company Profile		
EU1	Installed capacity	3, App B
EU2	Net energy output	3, App B
Economy – Management Approach		
EU6	Availability/reliability	45, 46
EU8	Research and development activity and expenditure	34
Labour practices and disclosures		
EU 14	Programs to ensure availability of skilled workforce	34, 35, 36, 38, 40, 41
EU 15	Percentage of employees eligible to retire	48, 49
EU 16	Policies and requirements regarding H&S of employees and contractors.	30-32
Societal Performance Indicators		
SO3	% employees trained in anti corruption policies and procedures	29, 30
Social – Society – Management Approach		
EU19	Stakeholder participation in decision making process.	42, 43
EU 21	Emergency preparedness and response	33
Social – Product Responsibility – Performance Indicator		
EU25	Injuries and fatalities involving company assets	30-32
EU30	Plant availability - capacity factor	45, 46

SUSTAINABLE DEVELOPMENT PERFORMANCE

Appendix A

Nuclear										
General Information										
Pickering A & B GS	Generation (net GWh)					Critical Group Dose (µSv)				
Generation capacity:	2010	2009	2008	2007	2006	2010	2009	2008	2007	2006
Pickering A: 1,030 MW net	19,236	20,761	19,123	16,855	19,801	1.0	1.8	4.1	2.6	3.6
Pickering B: 2,064 MW net										
Located on Lake Ontario in the city of Pickering, each generating station has 4 units. Two of the 515 MW Pickering A units taken out of service during the nuclear recovery program will not be refurbished.										
Number of used fuel bundles stored on site: 625,357										
Tel: (905) 839-1151										

Darlington GS										
General Information										
Darlington GS	Generation (net GWh)					Critical Group Dose (µSv)				
Generation capacity:	2010	2009	2008	2007	2006	2010	2009	2008	2007	2006
3,512 MW net	26,549	26,037	28,840	27,155	26,968	0.6	0.7	1.3	1.4	1.2
Located on Lake Ontario in the municipality of Clarington, 70 km east of Toronto. This generating station has 4 units.										
Number of used fuel bundles stored on site: 388,503										
Tel: (905) 623-6670										

- Ontario Power Generation for the years ended December 31
- Totals may not add up due to rounding

Thermal

General Information

Net Generation and Emissions*

Atikokan GS Generation capacity: 211 MW net Located west of Thunder Bay, the station has 1 coal-fired unit equipped with low-NO _x burners.	Generation (net GWh)					Emissions (tonnes)					
	2010	2009	2008	2007	2006		2010	2009	2008	2007	2006
	417	133	313	651	737	SO ₂	2,401	837	1,613	2,999	3,304
						NO _x	1,040	436	757	1,192	1,435
						CO ₂	496,220	197,000	415,000	751,000	849,400
Lambton GS Generation capacity: 950 MW net Located on the St. Clair River south of Sarnia, the station has 4 coal-fired units, 2 of which are equipped with SO ₂ scrubbers and selective catalytic reduction (SCR) equipment to reduce NO _x emissions. The remaining 2 were retired from service Oct 1, 2010 as part of the OPG coal closure program.	Generation (net GWh)					Emissions (tonnes)					
	2010	2009	2008	2007	2006		2010	2009	2008	2007	2006
	3,317	3,596	6,544	8,855	6,856	SO ₂	5,853	6,191	18,115	30,796	17,227
						NO _x	3,062	3,932	6,444	9,205	6,179
						CO ₂	3,286,630	3,729,000	6,373,000	8,459,000	6,451,000
Lennox GS Generation capacity: 2,100 MW net Located on Lake Ontario in the town of Greater Napanee. The station has 4 oil and/or natural gas-fired units.	Generation (net GWh)					Emissions (tonnes)					
	2010	2009	2008	2007	2006		2010	2009	2008	2007	2006
	60	122	278	789	317	SO ₂	126	571	405	899	623
						NO _x	91	213	354	936	420
						CO ₂	95,000	194,000	264,000	583,000	281,720
Nanticoke GS Generation capacity: 2,750 MW net Located on Lake Erie, the station has 8 coal-fired units fitted with low-NO _x burners, 2 of which are equipped with selective catalytic reduction (SCR) equipment to reduce NO _x emissions. Two units were retired from service Oct 1, 2010 as part of the OPG coal closure program.	Generation (net GWh)					Emissions (tonnes)					
	2010	2009	2008	2007	2006		2010	2009	2008	2007	2006
	8,206	5,563	15,329	18,083	16,174	SO ₂	28,568	21,480	52,720	67,423	61,958
						NO _x	11,161	8,314	20,087	22,376	20,048
						CO ₂	8,538,000	6,010,000	15,412,000	17,868,800	16,222,800
Thunder Bay GS Generation capacity: 306 MW net Located in Thunder Bay, this station has 2 coal-fired units.	Generation (net GWh)					Emissions (tonnes)					
	2010	2009	2008	2007	2006		2010	2009	2008	2007	2006
	191	123	702	590	959	SO ₂	713	421	2,528	2,530	4,163
						NO _x	608	447	1,820	1,550	2,701
						CO ₂	264,760	188,000	800,000	706,000	1,127,620

* NO_x is reported as NO₂.

Hydro

General Information

Net Generation

Niagara Plant Group

Generation (net GWh)

Generation Capacity: 2,267 MW

Includes 5 stations, Head Quarters (HQ) in Niagara area

2010	2009	2008	2007	2006
12,415	12,291	11,907	11,530	11,538

Ottawa/St. Lawrence Plant Group

Generation (net GWh)

Generation Capacity: 2,571 MW

Includes 10 stations, HQ in Renfrew

2010	2009	2008	2007	2006
11,154	13,926	13,873	11,484	13,133

Northeast Plant Group

Generation (net GWh)

Generation Capacity: 1,342 MW

Includes 13 stations, HQ in Timmins

2010	2009	2008	2007	2006
2,875	4,723	5,112	4,562	4,552

Northwest Plant Group

Generation (net GWh)

Generation Capacity: 687 MW

Includes 11 stations, HQ in Thunder Bay

2010	2009	2008	2007	2006
3,558	4,630	4,894	3,865	3,355

Central Hydro Plant Group

EcoLogo[®]-certified

Generation (net GWh)

Generation Capacity: 138 MW

HQ in North Bay

2010	2009	2008	2007	2006
------	------	------	------	------

EcoLogo[®]-certified Green Power generation capacity from 28 OPG stations (26 small hydro stations including 1 NEPG station, and 2 wind turbines), 125 MW (at Dec 31, 2009)

563	579	693	620	742
-----	-----	-----	-----	-----

EcoLogo[®]-certified Green Power capacity available from Power Purchase Agreements

0	0	0	12	50
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Total available EcoLogo[®]-certified Green Power capacity: 125 MW (at Dec 31, 2010)

563	579	693	632	792
-----	-----	-----	-----	-----

Other Central Hydro Plant Group capacity

Generation (net GWh)

Other Central Hydro capacity (non-EcoLogo: Eugenia Falls hydro station: 6.1 MW; New York Wind Farm: 6.6 MW)

39	45	46	38	33
39	45	46	38	33

Thermal

General Information

Net Generation and Emissions*

Atikokan GS

Generation capacity:
211 MW net

Located west of Thunder Bay, the station has 1 coal-fired unit equipped with low-NO_x burners.

Generation (net GWh)					Emissions (tonnes)					
2010	2009	2008	2007	2006		2010	2009	2008	2007	2006
417	133	313	651	737	SO ₂	2,401	837	1,613	2,999	3,304
					NO _x	1,040	436	757	1,192	1,435
					CO ₂	496,220	197,000	415,000	751,000	849,400

Lambton GS

Generation capacity:
950 MW net

Located on the St. Clair River south of Sarnia, the station has 4 coal-fired units, 2 of which are equipped with SO₂ scrubbers and selective catalytic reduction (SCR) equipment to reduce NO_x emissions. The remaining 2 were retired from service Oct 1, 2011 as part of the OPG coal closure program.

Generation (net GWh)					Emissions (tonnes)					
2010	2009	2008	2007	2006		2010	2009	2008	2007	2006
3,317	3,596	6,544	8,855	6,856	SO ₂	5,853	6,191	18,115	30,796	17,227
					NO _x	3,062	3,932	6,444	9,205	6,179
					CO ₂	3,286,630	3,729,000	6,373,000	8,459,000	6,451,000

Lennox GS

Generation capacity:
2,100 MW net

Located on Lake Ontario in the town of Greater Napanee. The station has 4 oil and/or natural gas-fired units.

Generation (net GWh)					Emissions (tonnes)					
2010	2009	2008	2007	2006		2010	2009	2008	2007	2006
60	122	278	789	317	SO ₂	126	571	405	899	623
					NO _x	91	213	354	936	420
					CO ₂	95,000	194,000	264,000	583,000	281,720

Nanticoke GS

Generation capacity:
2,750 MW net

Located on Lake Erie, the station has 8 coal-fired units fitted with low-NO_x burners, 2 of which are equipped with selective catalytic reduction (SCR) equipment to reduce NO_x emissions. Two units were retired from service Oct 1, 2010 as part of the OPG coal closure program.

Generation (net GWh)					Emissions (tonnes)					
2010	2009	2008	2007	2006		2010	2009	2008	2007	2006
8,206	5,563	15,329	18,083	16,174	SO ₂	28,568	21,480	52,720	67,423	61,958
					NO _x	11,161	8,314	20,087	22,376	20,048
					CO ₂	8,538,000	6,010,000	15,412,000	17,868,800	16,222,800

Thunder Bay GS

Generation capacity:
306 MW net

Located in Thunder Bay, this station has 2 coal-fired units.

Generation (net GWh)					Emissions (tonnes)					
2010	2009	2008	2007	2006		2010	2009	2008	2007	2006
191	123	702	590	959	SO ₂	713	421	2,528	2,530	4,163
					NO _x	608	447	1,820	1,550	2,701
					CO ₂	264,760	188,000	800,000	706,000	1,127,620

* NO_x is reported as NO₂.

Hydro					
General Information	Net Generation				
Niagara Plant Group	Generation (net GWh)				
Generation Capacity: 2,267 MW Includes 5 stations, Head Quarters (HQ) in Niagara area	2010	2009	2008	2007	2006
	12,415	12,291	11,907	11,530	11,538
Ottawa/St. Lawrence Plant Group	Generation (net GWh)				
Generation Capacity: 2,571 MW Includes 10 stations, HQ in Renfrew	2010	2009	2008	2007	2006
	11,154	13,926	13,873	11,484	13,133
Northeast Plant Group	Generation (net GWh)				
Generation Capacity: 1,342 MW Includes 13 stations, HQ in Timmins	2010	2009	2008	2007	2006
	2,875	4,723	5,112	4,562	4,552
Northwest Plant Group	Generation (net GWh)				
Generation Capacity: 687 MW Includes 11 stations, HQ in Thunder Bay	2010	2009	2008	2007	2006
	3,558	4,630	4,894	3,865	3,355
Central Hydro Plant Group EcoLogo®-certified	Generation (net GWh)				
Generation Capacity: 138 MW HQ in North Bay	2010	2009	2008	2007	2006
EcoLogo®-certified Green Power generation capacity from 28 OPG stations (26 small hydro stations including 1 NEPG station, and 2 wind turbines), 125 MW (at Dec 31, 2009)	563	579	693	620	742
EcoLogo®-certified Green Power capacity available from Power Purchase Agreements	0	0	0	12	50
Total available EcoLogo®-certified Green Power capacity: 125 MW (at Dec 31, 2010)	563	579	693	632	792
Other Central Hydro Plant Group capacity	Generation (net GWh)				
Other Central Hydro capacity (non-EcoLogo: Eugenia Falls hydro station: 6.1 MW; New York Wind Farm: 6.6 MW)	39	45	46	38	33
	39	45	46	38	33

SUSTAINABLE DEVELOPMENT PERFORMANCE

Appendix B

Indicator	2010	2009	2008	2007	2006
ENERGY GENERATION BY SOURCES (gross GWh)					
Thermal	13,300	10,570	24,807	30,741	26,756
Hydro (Renewable - excl. Central Hydro Plant Group)	30,376	36,178	36,305	31,754	32,977
Nuclear	48,718	49,744	51,140	47,003	49,763
Central Hydro Plant Group (includes 4 NE Plant Group stations)	603	626	726	669	825
Total Internal Energy Generated	92,997	97,118	112,978	110,168	110,322

Indicator	2010	2009	2008	2007	2006
ENERGY GENERATION BY SOURCE (net GWh)					
Thermal	12,192	9,538	23,165	28,969	25,042
Hydro (Renewable - excl. Central Hydro)	29,991	35,536	35,724	31,339	32,475
Nuclear	45,785	46,799	48,182	44,010	46,769
Central Hydro Plant Group (includes 1 NE Plant Group station, wind, power purchases)	602	624	726	670	825
Total Internal Energy Output (incl. power purchases)	88,570	92,497	107,797	104,987	105,112

Indicator	2010	2009	2008	2007	2006
ENERGY CONVERSION EFFICIENCY OF THERMAL GENERATING STATIONS					
Total Energy Input (GWh equiv.)	39,497	31,616	70,940	86,337	75,760
Net Energy Output (GWh)	12,192	9,538	23,165	28,969	25,042
Fuel Conversion Efficiency (%)	30.9%	30.2%	32.7%	33.6%	33.1%

Indicator	2010	2009	2008	2007	2006
OPG INTERNAL ENERGY EFFICIENCY					
Gross Generation (GWh)	92,997	97,118	112,978	110,168	110,322
Net Generation (GWh)	88,570	92,497	107,797	104,987	105,112
Generation Energy Efficiency (%)	95.24%	95.24%	95.41%	95.30%	95.28%
Internal Energy Saving - Cumulative since 1994 (GWh/yr)	2,469	2,434	2,405	2,389	2,234
Avoided CO ₂ , NO _x (as NO _x) and SO ₂ (tonnes)	2,578,454	2,644,565	2,425,715	2,350,772	2,234,700
\$ Value of Energy Savings @ market clearing rate (2010 = 4.7¢/kwh; 2009 = 4.5¢/kwh; 2008 = 4.76¢/kwh; 2007 = 4.6¢/kwh; 2006 = 4.63¢/kwh)	\$111,090,092	\$109,537,997	\$114,458,089	\$109,890,398	\$103,431,501
Annual Incremental Energy Saving (% of internal energy use)	0.8%	0.6%	0.3%	3.0%	2.4%
Annual Incremental Energy Saving (GWh/yr)	34.5	29.6	15.7	155.0	122.6

Indicator					
ATMOSPHERIC EMISSIONS - THERMAL					
	2010	2009	2008	2007	2006
Total Gross Annual CO ₂ Emissions (tonnes)	12,680,340	10,320,000	23,264,000	28,366,000	24,932,840
Total Gross Annual SO ₂ Emissions (tonnes)	37,661	29,500	75,382	104,647	87,275
Total Gross Annual NO _x Emissions (tonnes, as NO _x)	15,962	13,340	29,462	35,261	30,783
EMISSION RATES - THERMAL					
	2010	2009	2008	2007	2006
CO ₂ Emissions (tonnes/GWh-net)	1,040	1,082	1,004	979	996
SO ₂ Emissions (tonnes/GWh-net)	3.09	3.09	3.25	3.61	3.49
NO _x Emissions (tonnes/GWh-net, as NO _x)	1.31	1.40	1.27	1.22	1.23
ATMOSPHERIC EMISSIONS - NUCLEAR					
	2010	2009	2008	2007	2006
Total Gross Annual CO ₂ Emissions (tonnes)	7,688	9,107	6,289	15,428	6,271
Total Gross Annual SO ₂ Emissions (tonnes)	1	0.2	0.6	3	1
Total Gross Annual NO _x Emissions (tonnes, as NO _x)	33	40	26	85	23
ATMOSPHERIC EMISSIONS - OPG					
	2010	2009	2008	2007	2006
Total Gross Annual CO ₂ Emissions (tonnes)	12,688,028	10,329,107	23,270,289	28,381,428	24,939,111
Total Gross Annual SO ₂ Emissions (tonnes)	37,661	29,500	75,383	104,650	87,276
Total Gross Annual NO _x Emissions (tonnes, as NO _x)	15,996	13,380	29,488	35,346	30,806
EMISSION RATES - TOTAL OPG					
	2010	2009	2008	2007	2006
CO ₂ Emissions (tonnes/GWh-net)	143	112	216	270	237
SO ₂ Emissions (tonnes/GWh-net)	0.43	0.32	0.70	1.00	0.83
NO _x Emissions (tonnes/GWh-net, as NO _x)	0.18	0.14	0.27	0.34	0.29
NUMBER OF REPORTABLE SPILLS					
	2010	2009	2008	2007	2006
Category A Spills	0	0	0	0	0
Category B Spills	0	1	0	2	0
Category C Spills	25	15	15*	6	14
Category D Spills	n/a	n/a	n/a	22	29
NR = not reported in given year					

* Previously reported 'D' spills merged with 'C' spills to align with change to spill rating scheme in 2008.

Indicator					
PCB MANAGEMENT (tonnes)	2010	2009	2008	2007	2006
High Level PCB ⁽¹⁾ material in storage ^(3,4,6)	1	2	7	7	3
High Level PCB ⁽¹⁾ materials sent for destruction ⁽⁶⁾	215	72	9	19	326
Estimated inventory of High-Level PCB ^(1,3) material in service ⁽⁵⁾	0	0	41	42	56
Low-Level PCB ⁽²⁾ materials in storage ^(3,4,6)	1	2	9	2	2
Low-Level PCB ⁽²⁾ material sent for destruction ⁽⁶⁾	42	7	11	25	6
Estimated inventory of Low-Level PCB ⁽²⁾ material in service	23	15	3	5	3
Total Year-End Inventory (waste in storage + in-service equipment)	25	19	60	57	65
Total PCB material sent for destruction	256	78	20	44	332

(1) High-level PCB = ≥500 mg/kg PCB

(2) Low-level PCB = ≥50, <500 mg/kg PCB

(3) at year end

(4) Does not include PCB fluorescent light ballasts abandoned in place in out-of-service fixtures

(5) Does not include PCB fluorescent light ballasts

(6) Historical data restated to reflect reclassification of PCB ballasts from low-level to high-level PCB

*Excludes in-service high-level PCB equipment at Bruce Power included in previous SD Report inventories

RADIOACTIVE WASTE MANAGEMENT	2010	2009	2008	2007	2006
Used fuel - annual production (tonnes of uranium)	1,357	1,345	1,354	1,326	1,409
Used fuel in Storage (tonnes of uranium)	37,910	36,521	35,154	33,713	32,302
Low and Intermediate Radioactive Waste produced (m ³)	2,921	3,078	2,708	3,043	3,455
Low and Intermediate Radioactive Waste stored (m ³)	2,615	3,300	3,568	3,530	2,538

UTILIZATION OF SOLID COMBUSTION BY PRODUCTS	2010	2009	2008	2007	2006
Total Ash and Gypsum Produced (tonnes)	575,140	517,371	975,213	1,183,383	1,117,023
Total Ash and Gypsum Recycled (tonnes)	388,885	381,205	615,918	760,057	746,270
Diversion Rate (%)	68%	74%	63%	64%	67%

HAZARDOUS WASTE GENERATION	2010	2009	2008	2007	2006
Solids (tonnes)	690	464	190	338	165
Liquids (kilolitres)	1,943	1,904	2,668	2,430	2,146

WATER USE (million m ³)	2010	2009	2008	2007	2006
Turbine flows - hydro stations (total flow)	400,397	505,967	503,533	424,623	450,579
Cooling and service water use (non-consumptive)	12,221	12,372	13,807	13,702	13,264

National Pollution Release Inventory (NPRI)

NPRI Emissions: air, water and land ⁽¹⁾ (tonnes unless otherwise specified)	2009 ⁽¹⁾	2008 ⁽¹⁾	2007 ⁽¹⁾	2006	2005
Aluminum	250.060	466.854	393.280	307.932	343.950
Ammonia	30.8	40.3	40.2	27.554	29.447
Arsenic	6.284	15.255	19.075	15.625	22.638
Benzo(a)anthracene	NR ⁽²⁾	NR ⁽²⁾	NR ⁽²⁾	0.000	0.000
Benzo(a)phenanthrene	NR ⁽²⁾	NR ⁽²⁾	NR ⁽²⁾	0.000	0.000
Benzo(a)pyrene	NR ⁽²⁾	NR ⁽²⁾	NR ⁽²⁾	0.000	0.000
Benzo(b)fluoranthene	NR ⁽²⁾	NR ⁽²⁾	NR ⁽²⁾	0.000	0.000
Benzo(e)pyrene	NR ⁽²⁾	NR ⁽²⁾	NR ⁽²⁾	0.000	0.000
Benzo(g,h,i)perylene	NR ⁽²⁾	NR ⁽²⁾	NR ⁽²⁾	0.000	0.000
Benzo(j)fluoranthene	NR ⁽²⁾	NR ⁽²⁾	NR ⁽²⁾	0.000	0.000
Benzo(k)fluoranthene	NR ⁽²⁾	NR ⁽²⁾	NR ⁽²⁾	0.000	0.000
Cadmium	126 kg	342 kg	269 kg	400 kg	341 kg
Chromium	18.852	47.553	44.522	46.308	67.601
Cobalt	NR ⁽²⁾	17.065	21.501	7.81	10.135
Copper	25.442	68.72	77.625	62.3	73.245
Dibenz(a,h)anthracene	NR ⁽²⁾	NR ⁽²⁾	NR ⁽²⁾	0.000	0.000
Dibenz(a,i)acridine	NR ⁽²⁾	NR ⁽²⁾	NR ⁽²⁾	0.000	0.000
Dibenzo(a,i)pyrene	NR ⁽²⁾	NR ⁽²⁾	NR ⁽²⁾	0	0
7H-Dibenzo(c,g)carbazole	NR ⁽²⁾	NR ⁽²⁾	NR ⁽²⁾	3.1	0.004
Dioxins & Furans	0.995 g TEQ ⁽³⁾	0.798 g TEQ ⁽³⁾	1.603 g TEQ ⁽³⁾	1.042 g TEQ ⁽³⁾	1.642 g TEQ ⁽³⁾
Fluoranthene	NR ⁽²⁾	NR ⁽²⁾	NR ⁽²⁾	1.200	1.547
HCFC-22	NR ⁽²⁾	NR ⁽²⁾	NR ⁽²⁾	0	0
Hexachlorobenzene	4.929 grams	3.612 grams	0.042 grams	0.103 grams	6.86 grams
Hydrazine	0.746	0.684	1.096	0.881	1.039
Hydrochloric Acid	1,577	2,720	3,142	2,308	2845.693
Hydrogen Fluoride	126.0	270.0	342.0	308	345.7
Indeno(1,2,3-cd)pyrene	NR ⁽²⁾	NR ⁽²⁾	NR ⁽²⁾	0	0
Lead	7.79	20.70	27.47	20.33	0.00
Manganese	27.08	63.05	76.13	67.20	99.62
Mercury	155 kg	419 kg	516 kg	445 kg	550 kg
Nickel	16.56	39.091	51.495	36.881	49.038
n-Hexane	NR ⁽²⁾	NR ⁽²⁾	NR ⁽²⁾	0	0
Perylene	NR ⁽²⁾	NR ⁽²⁾	NR ⁽²⁾	0 kg	8 kg
Phenanthrene	NR ⁽²⁾	NR ⁽²⁾	NR ⁽²⁾	0.005	0.008
Phosphorus	822	822	912	992	574
Pyrene	NR ⁽²⁾	NR ⁽²⁾	NR ⁽²⁾	1.100	0.001
Selenium	NR ⁽²⁾	NR ⁽²⁾	8.9	7.6	9.285
Sulphuric Acid	522.983	575.006	493.131	222.594	289.474
Vanadium	30.5	81.0	102.1	79.4	107.2
Zinc	20.702	54.500	67.000	58.900	80.922

Criteria Air Contaminants (tonnes)	2009 ⁽¹⁾	2008	2007	2006	2005
Carbon Monoxide	1,813.00	6,012.00	10,817.00	8,163.00	12,267.66
Oxides of Nitrogen (as NO _x)	13,457.00	29,532.00	35,363.00	30,841.00	39,780.32
PM - Total Particulate Matter	2,104.82	4,097.20	7,776.06	8,259.56	10,421.67
PM10 - particulate matter ≤ 10µ ⁽⁵⁾	1,424.76	2,679.32	4,179.45	3,750.55	4,665.46
PM2.5 - particulate matter ≤ 2.5 µ ⁽⁵⁾	700.06	1,058.89	1,586.56	1,295.96	1,603.94
Sulphur Dioxide	29,500.05	75,380.03	104,647.65	87,275.59	113,645.3
Volatile Organic Compounds (VOCs)	48.00	74.00	166.00	376.00	437.85

(1) Year 2009 data was not available at the time of publishing.

(2) NR ported in given year

(3) g TEQ = grams Toxic Equivalent

(4) For detailed information on the breakdown of OPG's NPRI data by emissions to air, water, and land please visit the NPRI web site at http://www.ec.gc.ca/pdb/npri/npri_home_e.cfm

(5) µ = microns (particle diameter)

Glossary

Biomass	a renewable fuel from forest and agricultural products.
Co-Generation	the simultaneous generation of both electricity and useful heat.
EMS	environmental management system (generally ISO 14001).
Fly Ash	a residual fine particulate generated in the combustion of coal, conveyed with flue gas. In OPG's Thermal Plants >99 percent is captured by electrostatic precipitators.
GHG Cap and Trade	Cap and Trade (also known as Emissions Trading) is a market based mechanism that places a dollar value on the targeted emissions thus creating an economic incentive to cause reductions.
Gigawatt hour (GWh)	One billion watt hours (one million kilowatt hours).
ISO 14001	an internationally accepted management system standard for environment.
Kilowatt hour (kWh)	is a measure of electricity demand per hour by customers. The average Ontario household uses 1,000 kWh per month.
LILRW	low and intermediate level radioactive waste e.g. gloves, coveralls, tools, and wipes.
Megawatt (MW)	is one million watts.
MISA	Municipal Industrial Strategy for Abatement - a provincial program to address levels of persistent toxic substances in industrial discharge.
Net generation	gross generation minus internal energy use.
Polychlorinated Biphenyls (PCBs)	organic compounds that were widely used for a variety of applications, such as dielectric fluids in transformers, capacitors, and coolants.

As CEO I am committed to ensuring that OPG remains a company
people can trust – one that is safe, responsible, open and transparent.

Tom Mitchell President and CEO



2010 Sustainable Development Report



We welcome any comments, questions or suggestions for report improvement that you may have.

Please contact the Vice President of Sustainable Development at 1-877-592-2555, (416) 592-2555 or e-mail us at webmaster@opg.com.

Our mailing address is:
Ontario Power Generation, 700 University Avenue,
Toronto, Ontario, M5G 1X6
Visit our Web site at www.opg.com

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